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EDITORIAL

Fruit is a "Protective" Food

THE FINDINGS of the Nutrition Committee of the League of Nations are of very great importance to primary producers, particularly those engaged in dairying, fruit growing and market gardening. Summed up, the report shows that the deficiencies of modern diets are in the protective foods, namely, those rich in minerals and vitamins, rather than in cereals, sugar, and in energy bearing foods. For this reason, the League organisation urges that mothers should give fresh fruit and vegetables, or fruit juices, to every infant, especially if artificially fed. Just now the Apple and Pear industry, with the appreciated aid of the Federal and several State Governments, is conducting a campaign to increase the consumption of their products. This effort is meeting with success, though, as Prof. Harvey Sutton, of Sydney (a leading nutrition expert) stated recently, "it takes time to change the dietary habits of the people."

The Apple and Pear Publicity Campaign is planned on educational lines, and the truths which are being put forward are sinking into the mind of the public.

Concurrently, the citrus, dried and canned fruits section of the industry are continuing their publicity efforts. This is all to the good. It is not a matter of one fruit competing against another, but all seem to tie in with the general findings of world-wide nutrition committees. It is indeed worth while to make the public "fruit conscious."

If parents can be brought to realise the health and protective values of fruit and natural foods, especially for growing children, we shall have a healthier nation, and habits formed in childhood will last throughout life.

This suggests that it would be worth while to create a Natural Foods Council. Therein could be linked the dairying and honey interests, also all sections of the fruit and vegetable industries. Thus in advocating the use to say Apples, why should not people be taught that milk and Apples make an ideal breakfast?

Or perhaps early in the year and up till June, special emphasis could be given to Apples and Pears, to be followed by the stressing of the value of citrus fruits when they are in season—and all the time the health values of dried and canned fruits for domestic use could be kept before the public.

It is noted with regret that during the infantile paralysis epidemic in

Victoria, purveyors of patent medicines are using the power of heavily financed publicity to drive home the "protective" value of their wares.

It is just here that primary producers will need to bear in mind the necessity for continued effort to keep their health story before the public; and in the doing of this, they will have the support of the medical and dental profession, nutrition experts, baby health specialists, and education authorities generally. Further, the effort will be national in character, but it will be a valued contribution to the health of this nation—and especially children.

Seasoned Wood For Cases

TASMANIA MAKES A BID.

The necessity for seasoned wood for fruit cases exported overseas has long been recognised. Tasmanian sawmillers have been unable to supply sufficient seasoned timber or supply shocks when required. Now, to assist in the problem, the Tasmanian Government has agreed to finance approved sawmillers to enable them to prepare larger quantities of seasoned timber and shocks against its requirement.

It is expected that this assistance will be availed of and that cases from Australian wood will be more satisfactorily used instead of growers being forced to use Canadian pine to ensure the export cases landing in England in good condition and unshrunk.

PERSONAL

Mr. C. G. Kellaway, a well-known fruit agent at the Sydney Fruit Market is having a holiday in South Africa. He will be away until the end of the year. During his absence, business will be carried on by his sons.

Mr. J. B. Mills, President of the Australian Apple and Pear Export Council left London on the R.M.S. "Oronsay," and is due at Melbourne on October 5. He will preside at the Annual Council Conference at Sydney in the week commencing October 25.

Mr. Mills was successful in his mission with relation to freight reduction, he also enquired into many factors affecting Australian trade in England and on the Continent.

Mr. K. Weeding, manager, Messrs. S. J. Perry & Co., Melbourne, is also a passenger on the Oronsay. Mr. Weeding is a member of the Executive of the Victorian Fruit Marketing Association, and has also been a delegate of that Association to the Australian Apple and Pear Export Council.



Winners of the Schools' Packing Competition at the 1937 Brisbane Royal Show. Team of Pakenham Upper (Vic.) State School. From left: Ronald Doyle, Thelma Black, Alma Leslie, Jean Stuchberry, Jim Martin and Betty Black. Awarded 64 points of the maximum 70 points.

Queensland Royal Show

£ 20 in Prizes for Apple Packing

VICTORIAN SCHOOLS COMPETE.

A NEW feature of the Brisbane Royal Show this year was a Victorian School Children's Apple Packing Competition. The competitors are all children who are attending packing classes conducted by the Fruit Packing Branch of the Department of Agriculture.

There were 48 cases in the competition, representing eight schools with six cases each. With a maximum of 70 points, the awards were as follows:—Pakenham Upper 64, Harcourt 62, Blackburn 61, Harcourt North 60, Somerville 59, Wantirna 59, Pakenham East 56, and Tyabb 54.

The varieties of Apples packed were Yates, Rokewood, Schroeder and Jonathan. The winning school, Pakenham Upper, packed Yates; Harcourt, who were second, packed Schroeder, and Blackburn, third packed Yates. All cases carried well and opened up in splendid condition.

The competition was organised by the Victorian Dept. of Agriculture,

in conjunction with the Brisbane Royal National Society, and the committees of the above mentioned schools.

Huddart Parker Ltd. very kindly assisted with transportation arrangements, carried the fruit per the S.S. "Westralia" at a very reduced rate, and spared no efforts in connection with its welfare. The school committees are unanimous in their expressions of appreciation.

The judging was on the points system and 20 points were the maximum for each of the following: Height at end of case; bulge; general appearance, compactness and alignment; wrapping; sizing and grading = 100 pts. The following are the names of the scholars representing the various schools:—

Harcourt North State School: Aileen McNiece, Winnie Partridge, Evelyn Cox, Jean McFarlane, Ronald Barnes, Bart Ford.

Harcourt State School: Ronald Robins, Garth Symes, Frank Wolf, Jack Hogarth, Ronald Smith, Lorna Story.

Pakenham East State School: Coral Webster, Bonnie Dunning, Ina Hone, Wallace Reid, Wallace Jeremiah, Leslie Jeremiah.

Pakenham Upper State School: Thelma Black, Alma Leslie, Jean Stuchberry, Betty Black, Jim Martin, Ronald Doyle.

Wantirna State School: George Wallace, Allister Couper, Dick Wallace, Olive Fankhauser, Charlie Counsell, Lucy Handasyde.

Tyabb State School: Ted Lillywhite, Lorna Beaton, Phillip Webb, Joyce Beardmore, Les Connop, Joyce Twyford.

Somerville State School: Howard Armstrong, Peggy Currie, Stan. Roberts, Kath. Monk, Don Hicks, Margaret Shepherd.

Blackburn State School: George Byrne, Rene Sandford, Brian Richards, Sylvia Ketchell, Thelma Carter, Ruth Lawrence.

In supplying the above information, Mr. J. M. Ward, Victorian Superintendent of Horticulture, stated that the Secretary and a number of the Queensland Show Council were very impressed with the schools' exhibit at Melbourne Royal Show last September, and asked if we could induce our youngsters to make a similar display in Queensland, and the foregoing is the result.

Australian exports of canned foods to China declined from £198,739 in 1935 to £94,867 in 1936, the two chief lines being butter and milk. Canned fruit exports to China were valued at £8,210 in 1936 and difficulty was found in competing with cheaper foreign supplies and with local soft and stone fruits.

SHOWS TO COME.

Melbourne Royal — September 23-

Melbourne Royal — September 23-

October 2.

Lemnos (Vic.)—October 13.

Red Hill (Vic.)—October 13.

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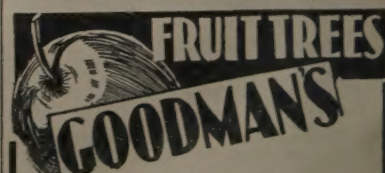
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Spraying for Insect Pest and Disease Control

CODLIN MOTH and BLACK SPOT

Demonstration of Control Measures

Government and Orchardists Co-operate

DURING 1936, the Department of Agriculture established a series of demonstration plots in all the principal Apple and Pear-growing districts of Victoria. The object of these plots, which were situated on commercial orchards, was to demonstrate to the growers, in a practical manner, the departmental recommendations for the control of Black Spot of Apples and of Pears, and Codlin Moth of both these fruits. The work was made possible by funds provided by the Commonwealth Government and the willing co-operation of the orchardists on whose properties the plots were located.

Prior to the undertaking of this work, it was considered that the control of black spot and codlin moth was not as uniformly satisfactory as was consistent with the available knowledge, and the results obtained by efficient orchardists. In addition to being of direct benefit to the growers, these plots also provided the Department with first hand information on the problems over a wide area, and enabled investigators to assess more efficiently the necessity for further work.

The method of procedure and the results obtained are reprinted from the "Journal of Agriculture," Victoria, by courtesy of the Department of Agriculture, and the illustrations herewith were kindly loaned by the Department at our request.

Method of Control.

Plots were established on 25 orchards. In 18 cases the plots were each approximately three acres in area, while seven were of approximately one acre each. The total area was 60 acres and comprised 12 varieties of Apples and five varieties of Pears. Ten of these plots were situated in the northern areas of the State and 12 in districts south of the Divide.

Past experimental work in the control of black spot and codlin moth of Apples and Pears enabled spray schedules to be drawn up and the district orchard supervisors, who had charge of the plots, modified these as local conditions demanded. It was anticipated that by carefully timing sprays, control of codlin moth could be achieved with from three to seven sprays, according to the variety and district. These schedules were as follows:—

Apples.

Spray Schedule "A."

1. Green Tip Stage—Bordeaux mixture 6:4:40 (6 lb. bluestone, 4 lb. quicklime, to 40 gallons water).
2. 5 to 10 per cent. Blossom (not later)—Lime sulphur 3:80.
3. 90 per cent. Petal Fall—Lime sulphur 2:80.
4. Late Calyx (before closing) — Lead arsenate paste 5:80 gallons (plus ½ lb. lime casein in 80).



Apple blossom buds showing "Green-Tip" stage. The bud scales have separated and the tips of the young green leaves are exposed.

5. Fourteen days after 90 per cent. Petal Fall (No. 3)—Lime sulphur 1½:80.
6. Ten to twelve days after No. 4 —Lead arsenate paste 5:80 (plus ½ lb. lime casein).
7. Twelve to fourteen days after No. 6—Lead arsenate paste 5:80 (plus ½ lb. lime casein).

Further lead arsenate sprays were applied according to moth activity as shown by lures and other observations, such as the presence of codlin moth eggs on the fruit. Lime sulphur and lead sprays were not mixed.

Spray Schedule "B."

1. Green Tip Stage—Bordeaux mixture 6:4:40.
2. 5 to 10 per cent. Blossom (not later)—Lime sulphur 3:80.
3. 80 per cent. Petal Fall — Lime sulphur 2:80.
4. Early Calyx 75 to 80 per cent. Petal Fall—Lead arsenate 5:80 (plus ½ lb. lime casein in 80).

5. Late Calyx eight to ten days after No. 4—Lead arsenate 5:80 (plus ½ lb. lime casein in 80).
6. Fourteen days after No. 3 — Lime sulphur 1½:80.
7. Twelve to fourteen days after No. 5 according to lures, etc. — Lead arsenate 5:80 (plus ½ lb. lime casein).

In the Summer sprays, lead arsenate was replaced by white oil 1:60 (plus ½ lb. lime casein spreader) in an attempt to reduce the arsenical residue below the allowable limit of .01 grains of arsenic trioxide (As_2O_3) per pound of fruit, at the same time remembering that spray injury may result if oil sprays are applied within three weeks of a lime sulphur spray. Where late spot was observed, 4 to 6 oz. of bluestone plus 4 or 6 oz. of freshly slaked lime was added to each 100 gallons of white oil mixture.

These two Schedules "A" and "B," while being the same for black spot control, provide alternate methods of combating codlin moth.

A further spray schedule giving an alternate method of controlling black spot and codlin moth was drawn up as follows:—

Spray Schedule "C."

1. Green Tip Stage—Bordeaux mixture 6:4:40.
2. Early Pink Stage — Bordeaux mixture 3:3:50.
3. Late Calyx Stage—Lead arsenate 5 lb. in 80 gallons.

Later spray applications were timed as in Schedule "A," using lead arsenate throughout.

Schedule "C" must not be used on the following varieties owing to the danger of russet:—Jonathan, London Pippin, Yates, Dunn's and Gravenstein. For late spot control—include 6 oz. bluestone and 6 oz. of freshly slaked lime in the late lead sprays, except in the above varieties.

Pears.

A schedule consisting of Bordeaux mixture and lead arsenate sprays was adopted as follows:—

1. Green Tip Stage—Bordeaux mixture 6:4:40.
2. Finger Stage (before white petals show)—Bordeaux mixture 6:4:40.
3. Late Calyx (before Pears turn over)—Lead arsenate 5:80 (plus ½ lb. lime casein in 80 gallons, plus Bordeaux mixture 3:3:50).



SHOWING STAGES OF BUD DEVELOPMENT IN RELATION TO THE APPLICATION OF SPRAYS FOR THE CONTROL OF BLACK SPOT OF PEARS.

(A) Buds swelling—too early for 1st Bordeaux spray; (B) Green-Tip stage—apply 1st Bordeaux spray 6:4:40. (Note this spray may be delayed until at least 70 per cent. of the buds are in the stage shown by the right hand bud in B); (C) Finger-Tip stage—flower buds still green, separating in the cluster, but before white petals show; (D) White-Bud stage—too late for 2nd Bordeaux mixture; (E) About three weeks after setting—before young Pears turn over.

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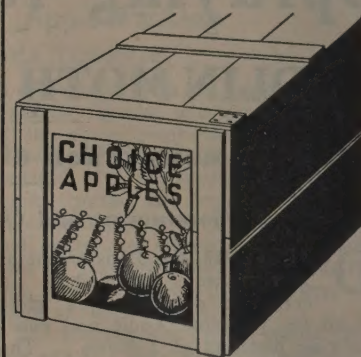
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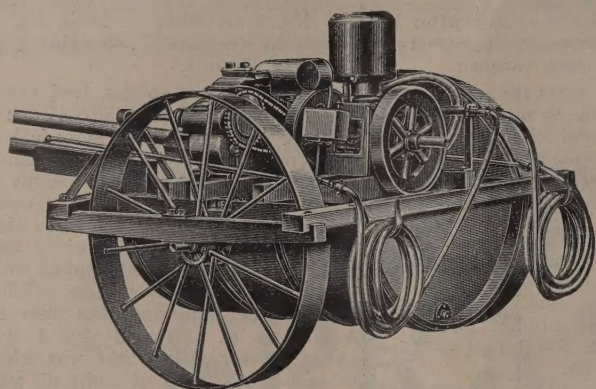
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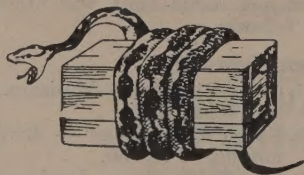
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Even if the crop fails the tree has drawn on plant-food reserves.

IF

fruit spur or terminal growth is short; the bark is tight—the fruit undersized and under-coloured; "Die-back" or "Rosette" appears on the terminals; leaves are pallid, limp or scorched on the margins;

THEN

the trees are under-fed with humus or fertiliser or both.

Full grown trees need 10 lbs. of 2:2:1 a fertiliser mixture containing 10% POTASH. Smaller or extra large trees, need proportionately less or more.

✂ POTASH MAKES all THE DIFFERENCE ✂

Codlin Moth and Black Spot Control—Continued

4. Twelve to fourteen days after No. 3—Lead arsenate 5:80 (plus $\frac{1}{2}$ lb. lime casein in 80 gallons).
5. Guided by lures, bands, etc. — Lead arsenate 5:80 (plus $\frac{1}{2}$ lb. lime casein in 80 gallons).
6. Guided by lures, bands, etc. — Lead arsenate 5:80 (plus $\frac{1}{2}$ lb. lime casein in 80 gallons).
7. Guided by lures, bands, etc. — Lead arsenate 5:80 (plus $\frac{1}{2}$ lb. lime casein in 80 gallons).

(Spray No. 7 may not be necessary.)

This schedule was applied to all varieties except Josephine and Winter Nelis. To Josephine, only the green tip Bordeaux mixture spray can be applied, while to Winter Nelis the second Bordeaux mixture spray must be applied before any petals show pink, and the third should not be applied within three weeks of petal fall. A weaker, third spray of 1:1:50 Bordeaux mixture will reduce russet on Packham's Triumph and other clean-skinned varieties.

The timing of black spot sprays is by reference to the stage of the developing buds on the tree. The most important stage is **green tip**, which is recognised when the bud scales have separated and exposed the tips of the young green leaves just sufficiently to enable a penetrating spray to be applied. Pears are sprayed at a slightly later stage than Apples.

On Pears a spray of the same strength is repeated when the young

unopened flowers in each bud have just separated, but before white petals show, i.e., at the finger tip stage.

Time of Application Important.

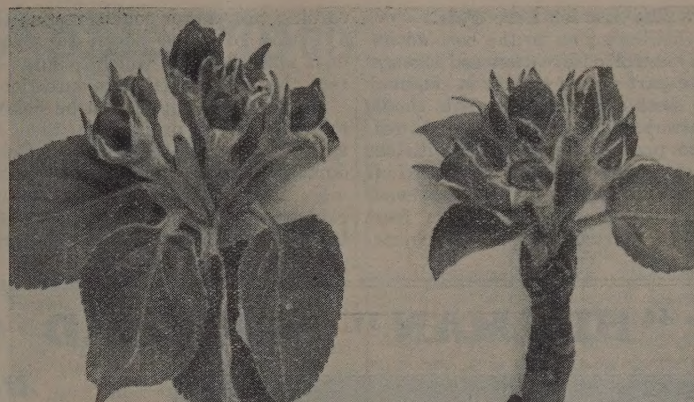
It will be seen that for the control of black spot it is essential that the spray treatment should be preventive, rather than curative, and, for this purpose, the fungicidal properties of copper, in the form of Bordeaux mixture, and sulphur, as lime sulphur, have been employed. The correct timing of the application of each spray is essential both from the point of view of controlling the fungus and to minimise injury to the foliage and fruit.

For the control of codlin moth, arsenate of lead and Summer white oil sprays were employed, but also, particular attention was paid to the various supplementary measures such as the scraping of loose bark from the trees and props, and chemical banding, etc. As codlin moth infestations in Victoria usually occur as two, more or less distinct, broods, one in the Spring, and the other in the late Summer, it was decided to direct control measures against these two broods with particular concentration on the Spring brood. To enable the time of emergence of these broods, to be accurately obtained, lure pots of 10 per cent. vinegar solution in glass jars, were suspended in trees in the plots. More details of these lures are given below. To supplement the information obtained from these observations were made of egg-laying and the entry of larvae into hessian bands during the season.

To effectively control the Spring brood, one or two calyx sprays were applied, and then particular attention was given to the maintenance of a protective cover of arsenate of lead over the fruit during the vital period following egg-hatching.

Codlin Moth Lures.

The number of moths caught in lure pots constitutes a valuable aid for the correct timing of cover and ovicidal sprays for the control of codlin moth. On all demonstration plots lures were used, and the weekly catches of moths in each particular district were recorded on charts, posted up in convenient places, for the benefit of local growers.



Apple Blossom — "Early Pink" stage.

Lures consisted of straight-sided glass jars (about 1½ pints capacity) containing an attractant fluid. In previous years, experiments conducted to determine the most suitable liquid for an attractant had shown that 10 per cent. malt vinegar solution was a suitable material, and consequently it was used on all demonstration plots. The jars were suspended (see illustration) in the upper half of the trees on the northern side, and contained approximately $\frac{3}{4}$ pint of 10 per cent. vinegar solution.

During part of the season weekly observations of the number of moths trapped were made, and the vinegar solution was changed regularly, either at weekly or fortnightly intervals. During the peak periods, viz., in early November, November 28 to December 1, and February to March, observations were made twice, and sometimes three times, a week. Although the total number of lure pots on each plot varied, they were distributed so that one lure was used to each twelve trees. This number was often in excess of the number actually required to indicate moth flight, but these pots served many other useful purposes on the demonstration plots.

The number of moths caught in each pot indicated in a general way, the variations in moth population which existed within a single orchard, or from orchard to orchard. At Croydon, where the average number of moths caught per pot during the Spring peak was thirteen, it was expected that the problem of codlin moth control would be greater than at Panton Hill, where the average catch was five moths per pot at the Spring peak.

Malt vinegar (1 part by volume in 10 volumes of water) was used as a lure material on all plots, but at Warrimoo, Tyabb, Shepparton and Lan-

caster, cider (1 part in 20 volumes of water) and molasses (1 part by volume in 16 volumes of water) were also used to compare their attractiveness, as lure materials, with vinegar. At Lancaster the moth population was not sufficiently high to justify any conclusions regarding the relative value of these lure materials, but on the other three plots, cider and molasses, both proved superior to malt vinegar, particularly during the Summer months when vinegar was liable to ferment and form a skin on the surface of the liquid, thus becoming less attractive to codlin moths. This fermentation was checked by adding a few crystals of bluestone to each lure pot.

Cider gave slightly better results than molasses, and the marked superiority of these two materials, particularly during the Summer months, suggests that the general use of malt vinegar may not have given a true picture of the magnitude of the second brood. Where cider and molasses were used in conjunction with vinegar, the number of second brood moths caught was nearly equal to the number of first brood moths caught; but where vinegar alone was used the number of second brood moths caught was relatively small. These results demonstrate the possibility of growers utilising waste Apples for the production of fermented Apple juice, and employing this as a lure material.

Small tests were conducted with wine vinegar, the lees from sweet wine rackings, golden syrup, and unfermented Apple juice, as lure materials, and indications were that these materials were superior to vinegar during the Summer months, but not quite as efficient as cider. Further trials of these materials are necessary before definite recommendations can be made.



Lure Pots showing method of suspension in the tree.

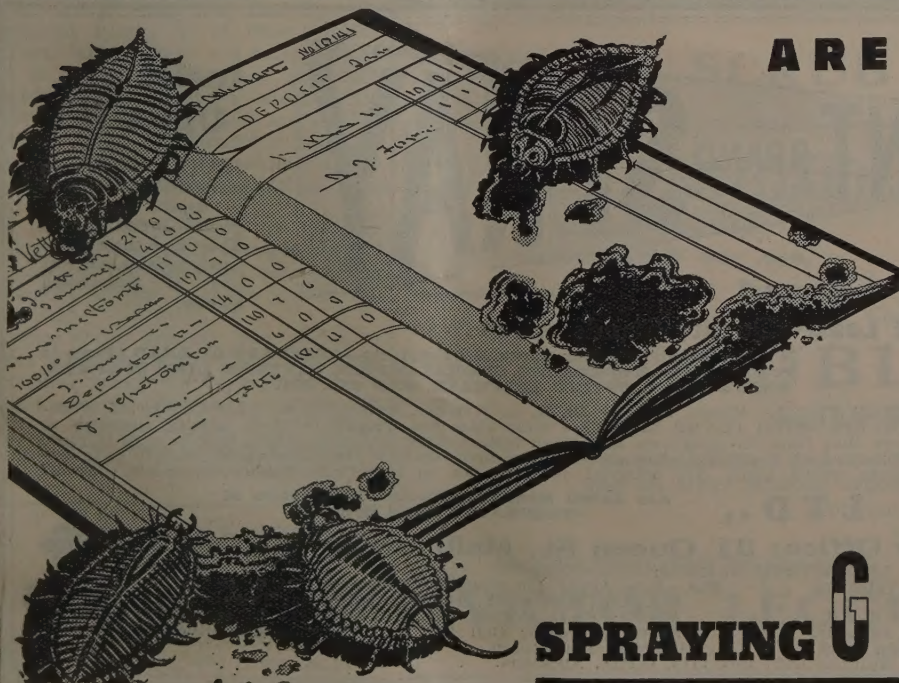
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The Use of Lure Pots.

To use lure pots to the best advantage, careful observation and thought on the part of the grower is required. High moth catches in lure pots should not always be considered a good reason to proceed immediately with the application of a spray. Two to four days elapse before moths commence egg-laying, and the eggs take from seven to fourteen days to hatch, ac-

cording to weather conditions; so that a period of some seven to sixteen days is available in which to spray before the fruit is liable to infection.

If the spray application be delayed as long as is practicable then the spray cover will be most efficient during the vital period of egg-hatching. White oil is essentially an ovicide, so that applications of oil should be made in that period following

peak emergencies when moth eggs are visible. This is usually from ten to fourteen days after the emergence. It may be necessary to apply more than one oil spray following a peak, as was done on the plots in Harcourt district.

It can be seen also from the results obtained in codlin moth control that there was no definite correlation between lure catches and infection.

Other factors, such as spray efficiency, crop conditions, etc., influence the final infection, while lure pot catches are influenced by such a variety of factors that they may give an incorrect impression of the infestation to be dealt with.

Codlin Moth Activity, 1936-37.

To understand the prevalence and distribution of the codlin moth population in the 1936-37 season, it is necessary to consider the population during the previous season. In Victoria, the season 1935-36 was particularly favorable to the codlin moth, and in spite of continuous spraying, many orchardists experienced a very heavy infestation. It was expected, therefore, that a large number of larvae would over-winter, pupate, and then emerge to give a large 1936 Spring brood of moths. This expectation was confirmed by the large numbers of moths caught in the lure pots during the period November 28 to December 1 on many of the demonstration plots.

On all the plots, except those at Pakenham Upper, Stanley and Amphitheatre, there was a minor peak emergence of moths during the period November 3 to 5. At Bamawm, Shepparton, Panton Hill, Bacchus Marsh, and Geelong, the peak emergence at this period constituted the main Spring brood.

Both Spring emergencies were closely related to air temperatures. In early November in Melbourne, the daily maximum temperature ranged from 81 deg. F. on November 3, to 96 deg. F. on November 5, and on the latter date the minimum temperature was 60 deg. F.—a day very favorable for moth emergence. On November 6, the lure pots were inspected and a large "catch" of moths was recorded for this warm period.

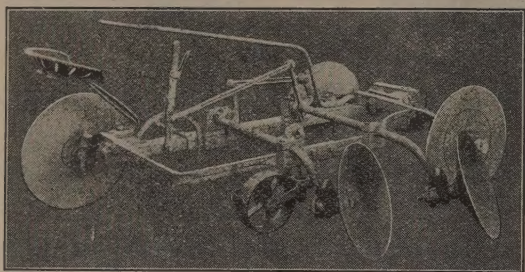
Between November 7 and 26, the weather was unfavorable for moth activity in most districts, and relatively few moths were trapped. Temperatures began to rise again on November 26, and on November 28, the maximum temperature in Melbourne was 95 deg. F., and the minimum 58 deg. F. The main Spring brood emerged on this hot day.

Early December weather in southern districts was unfavorable for egg-laying, and very few moth eggs were observed until mid-December. Conditions north of the Divide were more favorable, however, and moth eggs were observed earlier in the month. These eggs hatched during the last two weeks in December, and therefore this became the critical period for first brood infection.

During late December and January, the number of moths trapped in lure

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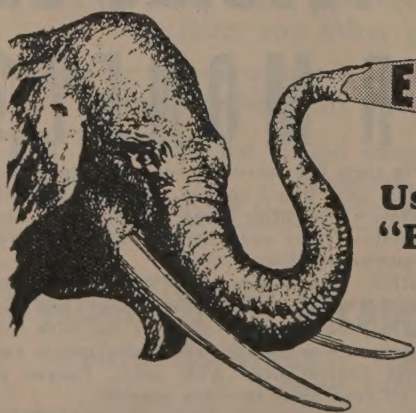
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Extract from "BETTER FRUIT," March, 1937, by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLIN MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codlin moth control."

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pots remained very low, and in a few cases no moths were recorded. In the southern districts, the second brood moths began to emerge during the second week of February, and reached a peak in some districts in late February, and in others, in early March. In the northern Apple districts, the emergence was slightly earlier, and reached a peak by mid-February, while in the northern Pear districts this peak was recorded in the first week of February.

In most cases the emergence of moths in the late Summer months was relatively low, and the rather cooler weather conditions, particularly in southern districts, were responsible, probably for this reduced moth activity. The second brood was smaller in magnitude, and occurred too late to cause a high infection in the early and mid-Summer varieties of Apples. Late varieties were exposed to more infection and the usual difficulty of protecting this fruit was experienced.

Recommendations for Control of Black Spot.

To give growers the opportunity to prepare for the Spring spraying programme against black spot this section has been included with this portion of the article.

The principles adopted for the control of black spot of Apples and Pears on the demonstration plots have already been outlined in the introductory remarks. The most efficient preventive commercial fungicide is Bordeaux mixture and this is used wherever possible. Its use on Apple varieties liable to russet is restricted to the earliest pre-blossom application. In the case of Apple varieties susceptible to Bordeaux injury, viz., Jonathan, Dunn's, Yates, London Pip-pin, Gravenstein, etc., it is necessary to use lime sulphur after the "green tip" Bordeaux mixture spray.

For Pears, three applications of Bordeaux mixture are recommended. The first two are made at the "green tip" and "finger tip" stages respectively, at the full strength of 6:4:40. The third Bordeaux mixture (3:3:50) is combined with a lead arsenate spray and applied two to three weeks after petal-fall (i.e., the calyx spray).

Attention should be given to those varieties, such as Packham's, Winter Nelis, and Josephine, which require special treatment as outlined in the introduction. It is recognised that the application of a third Bordeaux mixture spray to Winter Nelis can be expected to cause russet to this variety, but no alternative is available without reducing the margin of control.

In the case of Apples it is recommended that a Bordeaux mixture (6:4:40) spray should be applied at the "green tip" stage and that the subsequent sprays be of lime sulphur. These latter sprays will be applied at 5 to 10 per cent. blossom, petal-fall, and again a fortnight later at the strengths of 3:100, 2:100, and 1½:100, respectively. The number of lime sulphur sprays may be reduced or increased as seasonal conditions warrant.

A lower strength of lime sulphur than used previously is suggested because of the increased polysulphide content of lime sulphurs now on the market.

For those growers who prefer to use Bordeaux mixture, the first lime-sulphur spray can be replaced by a half strength Bordeaux mixture (3:3:50) applied at the "pink" stage (i.e., earlier than the 5 to 10 per cent. "blossom" for lime sulphur).

Light Brown Apple Moth

Origin and Control

THE following story of this moth is given by Mr. J. W. Evans, Entomologist of the Department of Agriculture, in the August issue of the Tasmanian Journal of Agriculture, in which he says:—

In certain Apple-growing districts within the State, considerable injury is occasioned to fruit by caterpillars of the Light-Brown Apple Moth.

These caterpillars, which are known locally as "Green Grubs," and sometimes as "Looper Grubs," are not abundant every season. On this account, and because of their apparent resistance to sprays, control measures have in the past been largely unsuccessful.

Under Tasmanian conditions, two generations occur in orchards, but the caterpillars of only one generation injure Apples. Moths that occur during November and December lay eggs which give rise to caterpillars, and the latter feed on Apple trees from late November until the end of February. This is the generation responsible for the damage to fruit. In late February, March, and early April, moths are again in evidence, but the caterpillars that hatch from the eggs laid by this brood of moths are seldom noticed.

Life History.

This account of the life-history of the Light-Brown Apple Moth begins with the brood which is present in orchards during the early Summer months. The moths, which are pale brown in colour, are less than half-an-inch long when resting with their wings folded. They are more frequently seen than the Codlin Moth, and if disturbed will make short, erratic flights. Eggs are laid on Apple leaves in batches of about twelve. They are pale green in color and almost flat, which renders them difficult to see. On hatching, they give rise to minute caterpillars which feed principally on the undersides of leaves. The caterpillars at this stage construct silken tunnels, lying alongside the veins or the midrib of leaves under cover of which they feed. After about three weeks they abandon their tunnels and burrow into curled leaves or roll round themselves the edge of a tender leaf.

It is not until early in January, in most seasons, that their presence is

noticed in orchards. During this month the growing shoots begin to assume a ragged appearance, and curled leaves become abundant.

Towards the end of January and during February, injury to fruit is caused by caterpillars feeding between two adjacent Apples or between an Apple and a leaf. The damage consists of surface blemishes, ranging in size from small pits to very extensive markings.

When full-fed the caterpillars turn into chrysalids, remaining wherever they have been feeding previously, and not entering the soil or hiding under bark. The chrysalis stage lasts some two or three weeks. In late Summer the moths emerge and lay their eggs on Apple leaves. These eggs take longer to hatch than those of the previous brood, because the weather is cooler at this season.

From the end of April, as long as leaves remain on the trees, small caterpillars may be found on the undersides of the leaves, and infested leaves can be recognised by the presence of small discolored patches on their upper surfaces. When they fall, some of the caterpillars will feed on such weeds as may be available, or on cover crops if present, whilst others will survive on the orchard floor, without feeding, until the end of September.

As soon as the weather warms up in early Spring and green shoots appear, the caterpillars climb the trees and feed on such growth as is available, and by the time the "pink-bud" stage is reached a large proportion of the blossom-clusters nearest to the ground will be infested. This brood of caterpillars complete their development late in October, and give rise to the flight of moths with which this account of the life history began.

Origin and Establishment of Infestations.

Unlike the Codlin Moth, which is an introduced insect, the Light-Brown Apple Moth is a native pest. The caterpillars feed on a wide range of plants, and infestations that develop in orchards are initiated by moths that fly in from outside. It is improbable that the number which enter an orchard in one season would be sufficient to bring about such an increase during the same season as

would cause the moths to become apparent as a pest. It is likely that several seasons will elapse before control measures become necessary. Even when the pest is well established in an orchard the numbers will fluctuate from year to year, due to seasonal conditions and to the control exercised by parasites.

Control.

It has been found that, whilst small caterpillars that feed on the lower surface of Apple leaves are readily controlled by lead arsenate, larger ones avoid poisoned foliage and are thus difficult to destroy. For this reason no purpose is served by adding lead arsenate to the fungicide sprays applied at the "pink-bud" or "green tip" stage.

An endeavour should be made to prevent caterpillars reaching the stage when they are able to curl leaves and feed on Apples. Young caterpillars may be present on trees from the beginning of November, and the period they remain feeding under leaves is never less than a fortnight. It is therefore recommended that in orchards known to be infested by the pest, from the calyx stage onwards, five applications of lead arsenate be given at fortnightly intervals; that a wetter be incorporated in the spray, and that all parts of the tree be covered, particular attention being paid to the under surfaces of the leaves and to growing shoots.

In some years the growth of shoots will increase during December and in others not until the end of January. Hence, as it is essential that these be kept covered with lead arsenate until all growth has stopped, it may be necessary in some seasons to give an additional treatment to certain varieties at the end of January.

The use of ovicides (white oil with or without nicotine sulphate) is not recommended, as their value depends on accurate timing or very frequent application. Oil sprays also tend to cause the spray deposit to be retained on the fruit in excess of the limit of tolerance.

Since neither the eggs or the caterpillars occur on Apple trees during the Winter, no control measure can be taken at this season, but orchards should be kept as free from weeds as possible, and cover crops should not be planted every year. Neither sound nor shrivelled Apples should be left on the trees during the Winter, and when practicable, all leaves remaining in the first week in June should be removed.

Summer pruning, if practised solely as a control measure against this pest, is not advocated.

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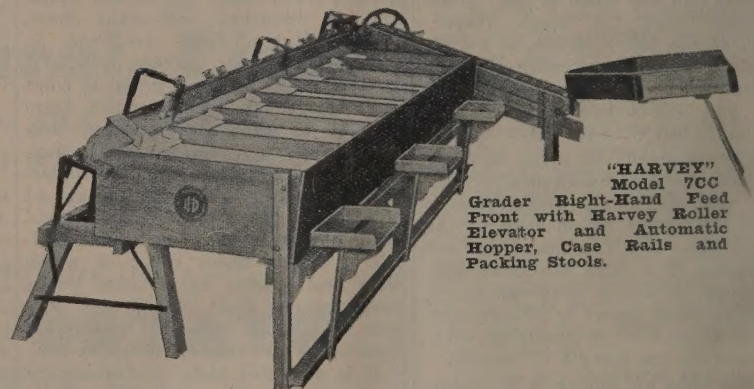
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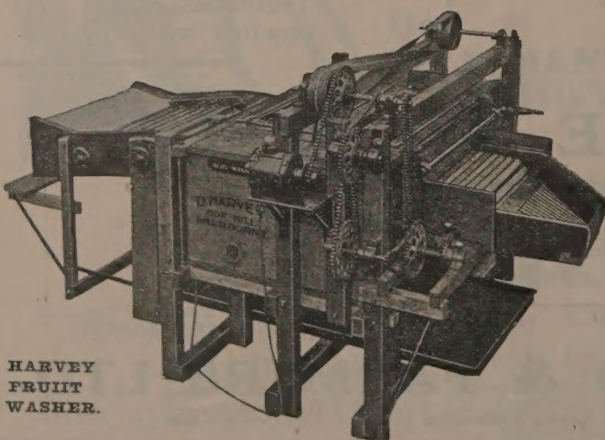
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Fighting Black Spot

Codlin Moth Campaign

Will Department's Experiments Continue?

MUCH valuable information had been gained from experiments conducted by the Department of Agriculture during the past season in combating Codlin Moth infestation and the ravages of Black Spot, said Mr. J. L. Provan, Research Officer, at Harcourt, when addressing a meeting of orchardists on August 3, as reported in the "Castlemaine Mail" of that week.

The Department of Agriculture had devised a plan which it was hoped would be of benefit in attacking Codlin Moth and Black Spot. The work was a demonstration rather than an experiment. The Department had 18 plots throughout the State, 18 over three acres each and seven smaller, comprising a total of 60 acres. They included several varieties of Apples and five of Pears.

Mr. Provan expressed the view that control could be obtained by the use of existing materials. At one orchard there were 15 plots of six trees; five plots had 4 lb. of sulphate of ammonia per tree; five with 5 lb. of 2:2:1, and the third without manure. A spray schedule was drawn up after consultation with the supervisors and research workers to lay down a principle for all work. In respect to Codlin Moths, lure pots were adopted and they gave an indication of the flights of the moths which would determine what spray programme to use.

On one plot, to combat Black Spot, a Bordeaux mixture, 6:4:40, was used on September 16, followed by lime sulphur, 3:80 on October 7, and 2:80 on October 17, while for Codlin moth lead arsenate 5:80 was used on October 21 for Dunns, and October 26 for Jonathans, with cover spray on November 4 and 19, and then four white oils, 1:60, on Dunns, and five on Jonathans, while with a second lot of Jonathans there were five cover lead sprays from November 4 and two white oils later.

10,000 Moths captured.

Mr. Provan mentioned that throughout the whole of the experimental plots 545 lure pots were used, and over 10,000 moths were captured. The moths first appeared about the middle of October, then, with a rise at the first week in October, followed by a drop, and then a peak at the end of November. The largest number captured in 24 lure pots in one week was 363. The general experience was that emergences of moths was followed 10 days later by hatching of eggs. Mr. Provan stated that it was evident that as the fruit developed in aroma, vinegar was less effective as a lure, so Apple juice, cider, molasses, and sweet wine leaves were used. Vinegar was effective in the early Spring.

The difference between the two schedules for Dunns and Jonathans was about 7d. per tree. The Codlin Moth infection with Dunns was 7.9 per cent. (6.0 per cent. entries and 1.9 stings) for a yield of 550 fruits per tree; for Jonathans, with five white oil sprays, after three lead arsenates 6:4 per cent. (2.8 entries and 3.6 stings) for a yield of 1,000 fruits; and for Jonathans with five cover lead sprays and two white oils 9.6 per cent. (3.0 entries and 6.6 stings) for a yield of 1,170.

Spray Costs.

The cost of the Black Spot programme with Bordeaux and lime sulphur was 4½d. per tree for materials but that did not include labor costs as they could not be standardised; the cost for Codlin Moth of three lead sprays was 4½d., and five oil

sprays 1/- per tree. Six lead sprays on Jonathans cost 8½d. The total costs were for Black Spot and Codlin Moth sprays ranged from 1/7½ to 2/3½, according to the programme adopted.

Mr. Provan emphasised the necessity for adopting a spray programme according to the seasonal conditions, and he advised each grower to utilise graphs as the problems were distinct and individual. It would be desirable to have community tests with lures so that they, acting in conjunction with the supervisor, could make recommendations. Problems could vary in each orchard.

A grower stated that generally Harcourt orchardists did not pin their faith in lime sulphur, owing to loss by thinning.

Mr. Provan said that that criticism was justified, for he knew that there was a liability of thinning.

Asked what was the experience of oil on Cleos, Mr. Provan agreed that 1:60 might be dangerous in warm districts, but that could be reduced to 1:80.

In reply to the Chairman, Mr. Provan stated that the combined oil and lead spray might be worth a trial.

In conclusion, Mr. Provan emphasised that no spray programme would be effective unless there was orchard hygiene practised. At Ardmona one grower had erected a moth-proof shed and in a trough alongside a window 20,000 moths were captured. He advised growers to store their second-hand cases in such sheds during the Spring, and so reduce the infestation of the orchards.

Spray Tests.

Unfortunately, said Mr. Provan, because the Federal Government has not yet made available funds for the continuance of orchard research work, the State Government will be forced to restrict its operations for the coming season, and that will cause much concern to orchardists in the Harcourt district, who have bene-

fited by the demonstrations conducted during the past season. The Club undertook to assist the Department of Agriculture, by carrying out experiments on several of the blocks according to the programme recommended by the Department.

Mr. Provan mentioned that there was much room for improvement in the work on the experimental plots. They might not have achieved the progress that was desired, but the plots had been worth while through the interest that was being created among the fruitgrowers in the campaign. The work had been commenced through the grants from the Commonwealth, but unfortunately that Government was not likely to introduce a Budget until February, by which time the season would be far advanced. The Department was anxious to maintain the experiments, but that could only be done by securing the co-operation of the growers. He was hopeful that the Department would be able to maintain the manurial experiments, but he was concerned with the spray programmes. Mr. Provan suggested that some growers in Harcourt might be prepared to assist by undertaking experiments according to Departmental programme, and working under the supervision of Mr. Thomlinson.

Growers Will Assist.

Mr. W. Eagle (President) said that the position was rather serious for the growers. He was prepared to make portion of his block available, and alongside he would conduct experiments with a programme that was recommended by the Club, so that a test would be obtained as to the relative merits of the two plans. He considered that the results of the tests in the past were too valuable to be allowed to drop.

Mr. M. McLean mentioned that he had communicated with Col. E. F. Harrison on the subject of a Federal grant, and had been assured that that would be provided for in the next budget.

Other members of the Club were agreed that the experimental plots should not be allowed to cease, and the assurance was given to Mr. Provan that provision would be made for the work to continue without any cost to the Department.

Mr. Pritchard suggested that it would be desirable for the services

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of the district supervisor to be made available to the district all through the tests, and Mr. Provan mentioned that while that was not under his control he was confident that the wishes of the growers would be met in that direction. It was likely that more inspectors would be appointed during the fruit season to assist the supervisor.

BROWN ROT OF STONE FRUIT.

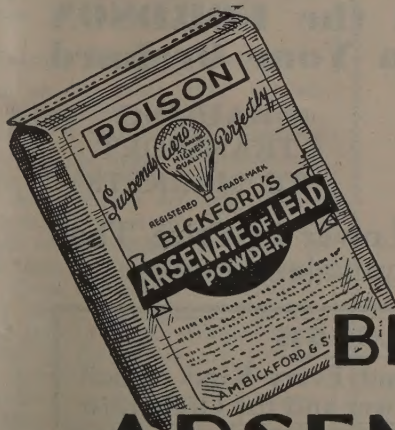
Importance of Clean-Up Measures in Control.

THE damage caused by this fungous disease while the fruit is maturing and during the period between harvesting and consumption has impressed all who are interested in stone fruits. Many growers, however, are unfamiliar with the equally important but more insidious damage resulting from blossom and twig blight occurring under cooler conditions in the early Spring. Quite apart from the appreciable reduction in crop, directly incurred at this period, there is the part played by the fungus in producing crops of spores or seeds which may cause extensive infections on fruit later in the season.

Mummified fruit and infected twigs from previous seasons give rise to this

The Codlin Moths'

Worst Enemy—



Orchardists, who for many years have sprayed with "Aero brand" Arsenate of Lead, still say that it is the most effective Arsenate of Lead they have ever used.

Its exceeding fineness and lightness in texture, its high covering and killing power, the ease with which it mixes and remains in suspension in the spray tank, place "Aero brand" in the front rank of all Arsenates of Lead. Although of such superior quality, it costs no more than inferior arsenates.

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early Spring infection, and the value of cleaning-up operations in the Winter and early Spring cannot be stressed too strongly, points out a note by the Biological Branch of the Department of Agriculture in the current "Agricultural Gazette." Dried-up mummies on the tree and about the soil should be removed and burned or buried deeply. Any piece of mummified fruit tissue under suitably sheltered conditions is liable to establish the disease in the new season. Mummies have been known to carry the fungus in a living state for several years.

Frequent soil disturbance by cultivation will do much to inhibit activity in mummies which have been overlooked during cleaning-up operations. The soil about the butt of the tree, frequently overlooked for long periods, should be given particular attention. Complete cultivation before the blossoms open is beneficial.

In regard to twig infection, the twigs carrying the small brown rot cankers will be removed when pruning is done well and in a systematic manner. Should blossom and twig blighting occur in the early Spring it is important to cut out and burn all affected parts.

Spraying with Bordeaux mixture or lime sulphur at Winter strength during bud swell is recommended. Later applications will also be necessary.

CONTROL OF RED SCALE.

N.S.W. Prosecutions.

A number of prosecutions for failure to control red scale were recently heard at the Griffith Court House. The local fruit inspector informed the Court that the majority of citrus growers on the Mirrool section of the Murrumbidgee Irrigation Area were taking red scale seriously, and had spent approximately £10,600 in fumigation and spraying during the 1937 season.

Copies of articles published in the local newspaper which were submitted showed that the fruit branch of the Department of Agriculture had impressed the urgency of red scale control upon citrus growers; had frequently reminded them of their obligations under the Plant Diseases Act, and had carried out a vigorous policy of prosecution in the previous season. It was stated that some citrus growers could still be found who were not heeding the note of warning, and were allowing red scale to depreciate their Orange and Lemon crops seriously, and to menace those of their neighbours. Eight orchardists were fined from £10 to £1 each, with 8/- costs of court.

A Dutch inventor has registered a new sterilising process said to be suitable for preserving fruit juices, wine or milk. A company is being floated in England to exploit the market. Air-tight packing is claimed to make possible the keeping of such contents for any length of time.

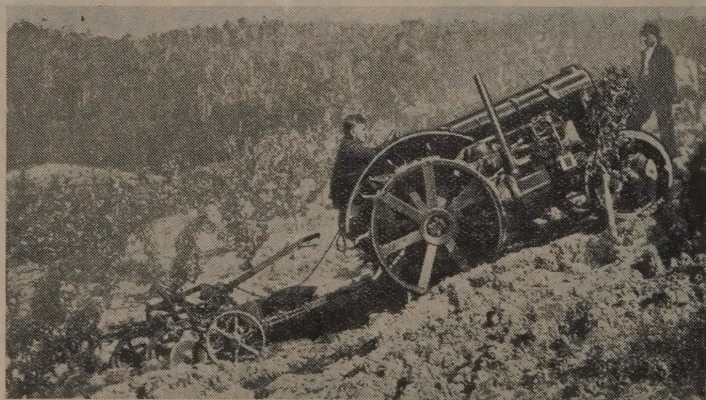
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Recent Trends in Orchard Fertilisation

Show a Tendency Toward Use of Complete Fertilisers in Contrast to Former Dependence on Nitrogen Alone

By Prof. M. A. Blake, Chief, Department of Horticulture, New Jersey State College of Agriculture, New Brunswick, N.J., in "The Fertiliser Review."

THE culture and fertilisation of orchards is characterised by continual change, like any other phase of agriculture or of industry. Some of these changes are in the nature of fads and are not based upon sound, established principles. Such are temporary and costly.

Beginning hundreds of years ago, gardeners and others who grew fruit trees recognised the value of animal manures, bones, marl, wood ashes, fish, and other materials in the nutrition of fruit trees. Although they did not have an understanding of the relative value of the various nutritional elements and had never heard of a fertiliser formula, nevertheless they sensed the fact that a considerable number of materials were beneficial to the growth of plants.

For many years commercial fertilisers were viewed with considerable suspicion, unless they were known to contain such materials as bone, dried blood, or fish, and possessed the proper smell.

In 1893, Dr. E. B. Voorhees was appointed Director of the New Jersey Agricultural Experiment Station. From that time until his death in 1911, he was untiring in his efforts to acquaint farmers with the proper use of fertilisers and manures. He consistently recommended complete fertilisers for fruit trees as a basic principle, and the Station has never departed from that fundamental concept.

Dr. Voorhees fully recognised the fact that soils varied greatly in fertility, and that if any particular soil area was amply supplied with any nutrient the application of more was not justified. He well understood the effects of excessive applications of nitrogen and other nutrients, and recommended a higher grade fertiliser for some soils than for others.

He maintained that a fundamental of successful farm practice was to make sure that all of the necessary nutrients were present in the soil in the proper proportions. Dr. Voorhees believed it was sound practice and good insurance to be a bit liberal in the use of such nutrients as calcium, potash, and phosphorus rather than to run the risk of a deficiency, and to apply nitrogen according to the needs of the crop. The most successful fruit growers in New Jersey have never deviated far from this principle.

Soils Accumulated Reserves.

During the first 15 to 18 years of this century or until the time of the World War, animal manures were available to growers and complete fertilisers were used quite liberally in New Jersey. Well-farmed soils possessed reserves of organic matter and nutrients. Furthermore, tillage was largely done by horse-drawn tools. Then came the period when some reports from field experiments in orchards appeared to indicate that nitrogen was the only nutrient that would give worthwhile commercial results in orchards.

Some went so far as to suggest that only one source of nitrogen was to be recommended. Of course, such a simple solution to the orchard fertilisation problem obviously had a

popular appeal, and was widely adopted.

It was not at all surprising that nitrogen alone appeared to give results equal to a complete fertiliser for a time. In many cases the orchards were upon at least fairly fertile soils, and many of them had received applications of manure either before or after planting, or both. Orchards were not infrequently planted upon areas which had previously been devoted to vegetable crops and heavily fertilised for years. Applications of 40 tons of manure to the acre were sometimes made for vegetable crops in that area. After a period of years, the first element likely to become deficient, if any, after such a practice would be nitrogen.

The misleading feature was that the results were regarded as representative of all orchard areas, and also the failure to recognise the fact that the Voorhees type of farm practice had previously built reserves in the soil.

The development of the gas engine as a means of power, the decreasing supplies of animal manures, clean tillage, and the use of sulphur sprays in orchards quickly changed the whole situation upon the less fertile Coastal Plain soils by 1925 to 1930.

Rapid oxidation of organic matter under clean tillage and inadequate replacement by the discontinuance of applications of manure; the reduction and the elimination of applications of potash, phosphorus, calcium, magnesium, etc.; and the free use of sulphur sprays in orchards quickly depressed soil fertility.

It was quite natural, too, that the serious effects of such practices would become evident first upon the sandy soils of the Coastal Plain where Summer temperatures are relatively high, and where there has never been a super-abundance of either nutrients or organic matter unless put there by man.

Calcium Deficiency Possible.

Previous to about 1930, calcium was not generally regarded as a plant nutrient. It was largely considered an element to apply to correct soil acidity. Recent studies in New Jersey have shown that a deficiency, either of calcium or magnesium, may cause a more serious injury to Apple or Peach trees than a deficiency of nitrogen. These elements are essential to proper plant development. Deficiencies of these elements sufficient to be harmful to fruit trees are not uncommon in the Coastal Plain area and orchardists are beginning to appreciate this fact.

Previous to about 1935 it may be said that too little was known about the functions and the effects upon fruit trees of the various nutrients, including calcium, magnesium, potassium, and phosphorus. The perfection of the sand culture method of growing plants, and marked advances in biochemistry, plant physiology, and horticultural science have entirely changed this situation.

Investigations in New Jersey and elsewhere during the past two years have definitely established foliage, stem, root, and other symptoms of

the effects of several nutrient deficiencies upon Apple trees. A bulletin will be published soon.

Sand culture studies are now being made by a number of investigators, including Shive, of New Jersey, to determine the effect of nutrient deficiencies, including such elements as sulphur, boron, and manganese upon a great variety of plants. These facts will concentrate attention upon the importance of judging the nutritional needs of plants by means of their external appearance and not by soil conditions alone.

The perfection of the quick soil tests marks another very recent trend and advance in the problem of fertilisation of plants in the field.

Conditioning is Essential.

Last but not least is the matter of the proper conditioning of plants, which is fundamental to success in commercial fruit growing. An athlete is said to be in good condition when he is in good health and attains maximum endurance and physical ability. It is not merely a matter of being well fed. Likewise, a plant may be well fed but in either a poor or a good condition for production.

Healthy, vigorous, one to three-year-old Apple trees do not produce fruit and no modification of a nutrient treatment will maintain their growth and health and enable them to produce a crop of fruit. A plant does not grow and fruit merely as a result of nutrients supplied by the soil or from a fertiliser bag. It is equally dependent upon the supply of carbohydrates synthesised largely by the leaves and upon a conditioning of the plant, both natural and artificial, which is favorable to fruit production.

An Apple tree which makes an excessive vegetative growth in Spring

will develop shoots and water sprouts instead of fruit buds, and be unproductive. Any fruits which are produced will be dull, smoky red in color and of poor texture and quality.

This means that we are rapidly approaching a stage where sound and correct fertilisation of orchards will be based upon the kind of fruit, the variety and age of the trees, the growth status of same as well as the class and fertility of the soil and the nature of the climate.

In New Jersey, where the trees, cover crops and weeds all make a good growth, a 3:12:6 fertiliser is recommended as a basic treatment to be applied broadcast. The amount which should be used will vary from 500 to 1,000 pounds per acre, according to the kind of fruit, the variety, the age and size of the trees, the character of the soil, and the climatic conditions of the area. Additional nitrogen should be applied as a supplement to this basic fertiliser, according to the needs.

Treatment for Poor Soils.

Where the soil is relatively low in fertility and cover crops and weeds do not grow well, the soil probably requires lime and a fertiliser higher in nitrogen. A 5:10:5 is recommended for such soils.

For bearing Peach trees, nitrogen at the rate of about 20 pounds of actual nitrogen per acre annually is recommended. More than this amount often results in less red color of fruit. Upon the lighter, sandier soils, an application of 30 pounds or a little more has proved to be more satisfactory.

The basic recommendations apply regardless of whether the orchard is under clean tillage, strip tillage, or sod. The amount of nitrogen required, however, is likely to vary with the soil management.

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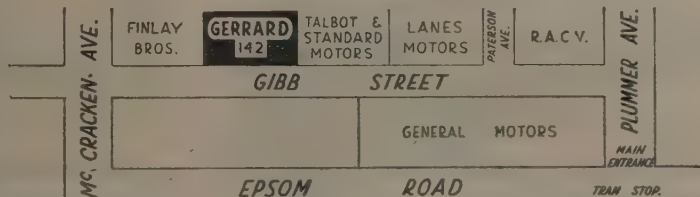
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★ Woolly Aphis

This pest provides a singular illustration of nature's strange ways, in that it produces both winged and wingless females, the former laying a single egg from which an aphid is hatched and the latter producing successive generations of young aphides alive.

The woolly matter so often seen on trees and shrubs is an excretion from glands on the back of the females. The depredations of the Woolly Aphis may be controlled by spraying in July or by a further spraying in the Spring time if they appear again during this period.

"Who'd be a Woolly Aphis when there's Dunlop Spray Hose in the Orchard".

During the manufacture of Dunlop Spray Hose every detail is controlled to ensure a finished product which is flexible, non-kinking, age-resisting, and has the ability to withstand higher pressures than any hose of a similar type.

Actual tests carried out in the Dunlop Perdriau Factory show that Dunlop Spray Hose will withstand pressures up to 1800 lbs.—six times the pressure recommended by experts to ensure effective spraying without waste from misting.

These facts together with an examination of the section of Dunlop Spray Hose illustrated below provide ample reason for its use by Orchardists for whom only the best is good enough.

- (1) A tough cover which protects the hose against heat and abrasions.
- (2) Four plies of super-strong rubber impregnated cords.
- (3) Insulating layer of heat-resisting rubber between each ply.
- (4) Inner tube of rubber specially compounded to resist acids and oils which would destroy ordinary rubber.

The longest-lasting,
most dependable
Spray Hose you can
buy.

Dunlop

SPRAY HOSE



Apple By-Products

Extensive Experiments.

American Apple growers have discovered that instead of culls being a total loss of three dollars a ton, they could be utilised in by-products and return to the grower an average of twelve dollars a ton. Dr. F. C. Blanck, Officer in Charge of the Food Research Division of the U.S. Department of Agriculture, uses this argument in support of further research into the use of Apples for conversion into by-products.

WE are all interested, he said, in an address before the International Apple Association, in the use of our cull and surplus fruits and vegetables, so that the grower can secure a return from that poor quality of his fruit that has already cost him something to produce. By utilising the culled fruit we create a decided advantage in stabilising the fresh fruit market.

Since the Apple is one of Nature's finest gifts to man, and is consequently grown extensively, its popularity is not to be wondered at. The world's Apple production is approximately 475,000,000 to 550,000,000 bushels per year. As a comparison, he quotes that in U.S.A. in 1934, people ate the following quantities of fruit per person:—Apples, 39.50 lb.; Oranges, 27.80 lb.; Bananas, 18.70 lb.; Peaches 16.35 lb.; and Grapes, 15.27 lb., proving that Apples easily rank highest in popular favor.

The problems connected with the conversion of Apples into by-products have been studied in U.S.A. for many years, and new information is being continually gained by chemists and Departments of Agriculture as to other means of use.

Products From Apples.

When we consider the imposing list of products made from the Apple, we cannot help but realise the vast amount of time, experimental study and inventive skill which have been devoted to their development. Vinegar, cider, brandy, dried Apples, Apple jelly, canned Apples and Apple sauce, pectin, frozen Apples, carbonated Apple juice, dried Apple pomace, brined and sulphured fresh slices for the bakery trade, Apple concentrate, Apple syrup, Apple powder, Apple specialties (confections), the waxy coating, Apple seed oil, certainly present concrete evidence of the efforts to develop new and useful Apple products.

There are at present several promising commercial uses for the waxy coat on the outside of the Apple. For instance, one of these constituents may be combined with certain other chemical substances to produce a resin which may be employed in lacquers to obtain superior hardness and water resistance. The same Apple product has been used in another lacquer formula for obtaining desirable resistance to absorption of moisture by glassine papers. Still another possible use of one of these is as a constituent of varnish removers. A non-cellulose dry-type stencil has been prepared from a formula in which Apple wax is incorporated. A number of these stencils have been tested and gave about three thousand copies of mimeographed sheets per stencil, which compares very favorably with the performance of the best of the imported German stencils.

Apple Juices.

American scientists have been experimenting in the manufacture of Apple concentrates and syrups for some years. Our earliest work dealt with the preservation of Apple juice, and we found that the use of a flash pasteurisation method gave us an

CITRUS NEWS AND NOTES

Apple juice which kept in surprisingly good condition for at least a year. In 1933 we were requested again to enter actively into the Apple products utilisation field. As a result of this urging, we established a temporary field laboratory at Wenatchee, Washington, and there undertook experiments in the preparation of Apple concentrate, Apple syrup, carbonated Apple juice and the straight pasteurisation of Apple juice. The difference between our early work and our present activities in the field of Apple products utilisation with particular reference to Apple concentrates and Apple syrup is that we have merely added further refinements to the technique which had already been developed by active experimentation at the New York State Experiment Station, at Geneva, in England, and in other parts of the world.

By concentrating the volatile flavoring constituents and restoring them to the concentrated juice we have been able to obtain an Apple concentrate which we believe is more nearly representative of the true characteristics of Apple juice than any that we have thus far encountered. This juice, furthermore, has been concentrated to a further extent than has been the usual practice in earlier experimental work. We concentrate this juice to seventy-two Brix reading, which means that there is seventy-two per cent. of solids in this juice, and this concentrated juice does not require any preservative nor any sterilisation, in order to keep it.

Apple Syrups.

We have followed the same general methods in the preparation of Apple syrups as we have for concentrates, except that in Apples of a high natural acidity we have had to neutralise the acidity in part. This is simple and can be done either before or after concentration. Syrups are certainly worth consideration as a possible means of another form of Apple product.

Apple Powder.

Still another new Apple product which must be given consideration, although the quantities of this additional new material which may be marketed will not be as great as those which will be marketed in other forms of Apple products, is Apple powder.

A number of years ago, in Germany, there was developed an Apple powder which was found to be exceedingly useful in the treatment of certain intestinal disorders in children. Since then this type of product has been prepared and is commercially available in Italy, and the Dry Fruits Products Corporation at Oakland, California, is also prepared to distribute a very attractive Apple powder. As for further uses of this type of product—we are carrying on some additional experiments in our laboratories at Washington with Apple powder looking toward the incorporation of this material in baking products.

I have attempted to indicate the field already covered in Apple products investigations and to emphasise those new products which, in my judgment, are worthy of serious consideration from the commercial standpoint. As business men you will carefully consider the cost of launching new products in a sea of competition with other products. You will appreciate the absolute necessity of carefully controlled production so as to safeguard quality.

To-day both industry and the individual are looking to science and invention to furnish new products, new uses for products, new raw materials to add to our comfort, health, welfare and happiness. May I earnestly solicit your interest in and encouragement of scientific research in relation to the Apple industry. The research costs of to-day build up the profits of to-morrow.

X-Ray for Fruit

Shows Interior Instead of Exterior Quality.

A MACHINE recently invented by the General Electric X-Ray Corporation of Chicago will, if found satisfactory, make the culling of citrus fruits fool-proof. Its use will assess the interior quality of the fruit instead of depending upon exterior appearance and the cutting of samples to determine the quality, as at present. This will ensure economy in grading and packing.

The new machine is being carefully investigated by the technical staff of the Californian Fruit Growers' Exchange, and if given approval will be a distinct contribution to the citrus industry. It is claimed that the machine will handle Oranges at the rate of a car-load in four hours. Traveling belts will carry the fruit through two fluoroscopes through windows of which operators can see the inside of the fruit and estimate its quality. Imperfect fruit will be released by pulling a lever.

Observation will disclose the amount of juice in the fruit as well as any dry cells caused by freezing. Since Orange packing plants now cut thousands of Oranges in a day, causing great loss, the provision of such machines, though expensive, will in the end lower the grading and packing costs.

Experts who have inspected the machine in operation declare that it will "do the job," and, following further tests, it will be offered as a commercial proposition by the inventors. It is comparatively simple in operation. The complete machine measures only about 9 x 4 feet over-all. It is provided with a powerful X-ray tube carrying 90,000 to 100,000 volts and projects a shadow of the fruit being conveyed on the travelling belt on to a fluoroscopic screen watched by the operator.

The principle of distinguishing the quality of the fruit is that good fruit with heavy juice absorbs the light ray and shows dark green on the screen. Immature fruit, such as that low in sugar content, or granulated fruit, shows up lighter in color. Breakdown is easily distinguished on the screen. The machine consumes about 1,200 watts of power per hour, which is carried on a 220 volt electric wire stepped-up by transformers to the required 100,000 volts. The greatest running expense is said to be the replacement of the X-ray tubes, which cost approximately £30 each and which

last for approximately 1,500 working hours, costing about 3/8 per shift of eight hours.

If the machine satisfies the claims made for it, it will mean considerable saving for growers and will ensure the consumers getting better fruit—both very important considerations.

Thirteen hundred and eighty-five citrus growers in Florida, owning

30,100 acres of groves, have formed a permanent association styled "Production Managers' Association." Some of its main objectives are the production of higher uniform quality fruit, the lowering of cost of production, and general grower service.

:: :: ::

Three Arizona packing houses, besides several in California have installed X-ray machines to detect frozen citrus fruits.



Citrus trees under fumigation tents.

N.S.W. Loan to Growers

ORCHARDIST SAYS MARKETS MORE VITAL.

Citrus growers in the Hills and Hawkesbury districts are not fully availing themselves of the loan assistance offered by the Government because, they state, they fear their inability to repay the advances, states the "Sydney Morning Herald" in explaining the poor response to date to the loan offer.

Councillor A. T. Currie, a well-known orchardist at Glenorie, said that it was useless for the growers to borrow when no markets were available to take their fruit. New Zealand was buying South Australian citrus fruit, and the orchardists of that State were taking all the young trees they could buy from New South Wales to build up their orchards, he said. Favorable rains so far received in the districts indicated prospects of an excellent crop, but the problem which would confront the growers again was what they would do with their fruit.

"Until the politicians responsible for the closure of the New Zealand market against us do something to find new markets, there is little hope of the industry reviving," he added. Already the orchardists were heavily in debt and further loans would result in many being forced off their holdings.

Councillor Currie's views were substantiated by Mr. W. J. Fagan, of Galston. He said that the majority of growers felt that if they accepted the Government's offer it would only be placing "a weight round their necks." He forecast that there would be no crop of any material advantage this year owing to the effects of the drought from which the orchards had not yet recovered. "The prospects look good for a large crop next season, but growers will not borrow money on prospects nor will the Government lend on prospects," he added.

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GRADES—Mixed Crystals, Fines, Granulated (Snow), Packed in Suitable Containers for Growers' Requirements.

Agents for All States: ELDER SMITH & COMPANY LIMITED, All Capital Cities.

BOOKLET—"Better Yields by Spraying with ESA Bluestone" obtainable on application to Elder Smith & Co. Ltd.

Gas Storage of Fruit

Superior to Cold Storage

FOLLOWING the report in our August issue upon the experimental shipment of fruit to England in gas storage, conducted by the Elgin Gas Corporation Ltd., of Sydney, comes a report taken from the latest bulletin of the Imperial Bureau of Fruit Production, wherein Messrs. F. Kidd and C. West review the results of certain research work done in the gas storage of fruit.

The review summarises the results of investigational work done on gas storage of fruit by the Food Investigation Board of the Department of Scientific and Industrial Research,

London. The principle of the method is based on the fact that in an atmosphere containing more carbon dioxide and considerably less oxygen than air the life of Apples is found to be greatly prolonged. To ensure this condition, gas-tight chambers are essential. The size of the chamber is determined by the speed at which the grower can fill a particular store with fruit. A chamber holding 40-50 tons has proved commercially satisfactory in this country. As regards construction, lining walls with tinned or galvanised sheet steel over a concrete floor, together with vase-

line coating where necessary, ensures a fair measure of gas-tightness. Notes are given on the best position of stores, of doors and of the best methods of ventilation and control of gas content and temperature. The relative humidity appears to vary between 85 and 98 per cent. of saturation in commercial gas stores, and further control has not so far been found necessary. Instruments needed are thermometers and gas indicators.

The authors consider that for certain Apple varieties gas storage has the following advantages over cold storage in air:—(1) The ripening at any given temperature is slowed down to about half the rate in air, and the life of the fruit is therefore doubled. (2) Low temperature breakdown is avoided by the use of temperatures which do not induce it. (3) Fruit firmness is preserved almost unchanged over long periods. (4) The change in ground color from green to yellow is markedly retarded. (5) Surface eating Tortrix larvae are killed in gas storage. The theoretical aspects of refrigerated gas storage are discussed, and the following points are considered in detail:—Normal behaviour of Apples after gathering and the effect thereon of temperature, carbon dioxide, oxygen and volatile substances other than carbon dioxide. Finally, the possibilities afforded by the method for the longer and more efficient preservation of other fruits are considered, Pears in particular offering scope for such treatment. The comparative effects of varying temperature and gas content and other factors on stored Apples are set out graphically in 9 figures. The authors are to be congratulated on setting out clearly, in simple language, the advances made, and the present position and their article can be recommended without hesitation to growers and others interested.

CONCRETE BUILDING BLOCK MACHINES.

Country readers visiting the Melbourne Royal Show and who may be interested in the erection of cheap yet everlasting implement sheds, garages, drying or packing sheds, etc., are invited to inspect the display of building block machines shown by Mr. G. W. Mawman, at Stand No. 32, Lennon-avenue. Mr. Mawman will demonstrate machines for the manufacture of concrete blocks, fence posts, concrete channelling, silos and concrete tanks. The machines are cheap and sturdily constructed of high-grade steel, and will last a life-time.

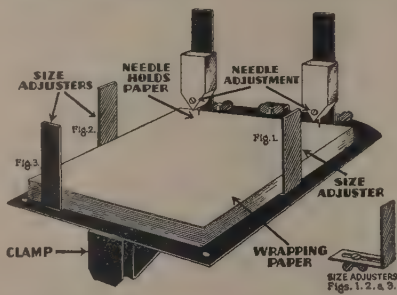
Another interesting aspect of this display will be examples of the use of specially colored cement in the making of cement blocks for the building of homes. It is claimed by the inventor that a house can be built of cement blocks by the use of the "Lightning Home Builder Machine" for from 50 per cent. to 75 per cent. less than the cost of a brick house of similar design and size.

Mr. Mawman invites any readers who are thinking of erecting any type of building to call at the stand where he will be pleased to give all information and substantiate the claims he makes regarding the "Lightning Home Builder" and block-making machines.

A new Plum named "Hollywood" has been introduced in California. It is a blood red freestone, will hang on the tree in good condition for several days after it is ready to pick.

660 Watermelons to the acre is California's average for last year, but, because of larger acreage, Georgia produces most melons in U.S.A.

The Improved "FASTPAK" Paper Holder



Has now been improved by:—Providing a bracket attachment which enables the machine to be clamped on either the Grader or box.

Adjusters have been extended to allow the insertion of a full ream of paper at the one operation.

Double-Needle Control ensures that there is no waste or unsightly torn corners.

Adjustable to take various sizes of paper.

Remarkable for its speed and smoothness and definitely improves Packers' Tallies.

Manufactured by and obtainable from—

Southern Victoria Pear Packing Co. Ltd.
BLACKBURN, VICTORIA
or Interstate and District Agencies.

There Is No Denying It

HARVEY IMPLEMENTS

Live Up To Their Reputation For DEPENDABILITY



"HARVEY" PATENT OFFSET TANDEM DISC CULTIVATOR: Cultivates right up to the butts of the trees or vines while the Tractor is driven right out in the middle of the row. Proved to be an excellent machine for deeply cultivating heavy irrigation land.



THE "HARVEY" LANCIA DISC PLOW is designed specially for the hardest kind of plowing. Low overhead clearance for low overhanging trees. Can be racked over for both plowing close up to and away from the trees. Equipped with the famous **"HARVEY"** Power Lift or Screw Lifts which are operated from the seat of the Tractor.



THE BEETLEBACK cuts out all hand working under citrus trees, and keeps the ground level. It lifts up the branches, cultivates under them, and gently replaces them on the ground.

Be Wise!!

SEE

HARVEY PRODUCTIONS

**ROYAL SHOW
STAND 70**

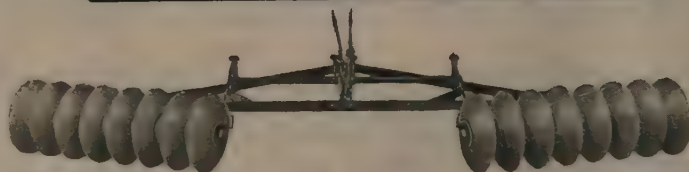
Plummer Avenue



"HARVEY" built "PETTY" PLOW: Plows out strips which have not been plowed for years. Cuts through couch grass with the greatest of ease. Also plows up to the trees and in the centre. **DISC CULTIVATING GANG** can be attached in place of Disc Plow Gang.



"HARVEY" 3-FURROW TRACTOR POWER LIFT HB7 MOULDBOARD ORCHARD PLOW: A one-man job. Built in sizes from two to six furrows.



EXTENDED DISC CULTIVATOR: One of the most efficient Disc Cultivators for thoroughly working heavy irrigation orchard land. Cuts out one land in two strokes and leaves it level.

A Harvey Implement for Every Need

Daniel Harvey Limited

**ORCHARD IMPLEMENT
SPECIALISTS**

Box Hill, Vic.

Manufacturers of Leading and Most Complete Line of Cultivating Implements for the Fruitgrower, Vinegrower and Citrusgrower.
AGENTS IN ALL STATES.

New South Wales News and Notes

REVIEW OF LEETON AND GRIFFITH ORCHARDS

By Our Travelling Representative.

LEETON

(Continued from August issue.)

EVER SINCE the main canal has carried the water from Berembend Weir to Yanco, 46 miles distant, and thence on to Leeton and its surrounding districts per distributing channels, the locality has been famous as a fruit growing centre, and for the production of Rice. In the peak watering season, 700,000,000 gallons per day are delivered to the main canal at Yanco.

The earliest plantings were chiefly Peaches, Apricots, Currants and Sultanas, being followed by Citrus and Apples. Currants and Sultanas, however, are gradually being replaced by table Grapes, deciduous and citrus trees.

At Yanco, four miles south of Leeton is seen the electric power and distributing station, which supplies the whole of the M.I.A. Also quite a number of very grand orchards and Citrus groves. Mr. L. B. Marchant's orchard arrests the attention of the traveller, the groves being of a beautiful dark green foliage carrying a mass of golden fruits, with cover crops of Peas and Beans in profusion for turning under in the early Spring.

Journeying north, we see a number of well-kept places, amongst these is Mr. S. T. Randall's No. 1183 farm. This property is mainly citrus and canning varieties. Mr. Randall's family are also poultry enthusiasts, and some very fine Buff Orpington and White Leghorn hens were in evidence.

Mr. W. Jacka, opposite, on his extensive estate, grows deciduous fruit, Sultanas and Citrus. One notes the cleanness of the vine canes and plentiful growth of the large Emperor Mandarins.

Like other successful growers, Mr. Jacka uses as much organic manure as can be procured, supplemented by various artificial fertilisers. He attributes his prosperity, in a great measure, to the scientific application of fertilising substances.

At the time of writing (8/8/37), nearly all Citrus growers in the M.I.A. have given their trees a drink, and it is wonderful how quickly they have responded.

Stanbridge.

This is another suburb of Leeton, about 12 miles west of that town, and is celebrated particularly for citrus culture, the top soil being more sandy and easier to work than the Rice lands, but these, nevertheless, have a good red clay sub-soil containing lime.

Hereabouts are a number of red sandy rises, a little above channel levels, on to which the water is elevated by centrifugal pumps electrically powered.

Amongst the successful growers in this locality of fairly large holdings, are Messrs. Cleary, Davidson, Morphett, Poulsen, Boot, Thompson, Hone, Young, Walsh, Aggett, Sims, Aylett, Hawkes, Jenkins, Morris and Nolan. The above can all justly claim to be enthusiastic experts in their calling. It is a particularly prosperous locality with the growers happy, contented and hospitable.

Wamoon.

Four to five miles west of Leeton lies Wamoon, which supplies another group of growers who cater for the cannery, Australian and overseas markets in citrus, deciduous and vine products. Passing through Mr. Baulch's place to interview the Peach

pruners, under the supervision of Mr. Baulch, Jnr., the writer saw what he considers the best-grown Peach trees possible, being perfectly shaped, enormous in size, full of vigor and new wood showing well for a heavy crop; 180 tons of Queens, Pullars, Phillips and Goodmans, are sold yearly. The Apples, citrus and vines are in keeping with the rest of the property.

Mr. K. C. Miller, of farm 187, an ardent enthusiast in everything pertaining to the Leeton district, in addition to being a leading grower of citrus and canning fruits, is a grower of Rice and other farm products, whilst Mrs. Miller is keen on the poultry department, some classy Australorps being in evidence. This property at "Stony Point" is well sheltered by bands of Willows and Eucalypts.

Beyond Mr. Miller's, some eight or nine miles out, going north, and facing the main canal, flowing towards Yenda and Griffith, are the citrus groves and orchards of Messrs. Dunstane, Barker and Jamieson. This locality suits citrus culture, and where citrus does well, all other varieties flourish. The general practice is to use the more friable and deep soils for citrus, and the heavier soil for deciduous. These places present a very prosperous appearance.

Mr. V. W. Leatheren's farm, 226, is two miles north of Leeton, on the Brobenah-road, and grows Apples, Pears, Peaches, table Grapes and citrus. In his own packing house, equipped with "Lightning" graders, etc., the fruit is processed, and marketed under the V.W.L. "Yanco" label, and special "Almeria" label for Grapes.

The centre of this estate is one of those splendid rises, which is very suitable to citrus. Heavy organic manuring and cultivation producing large fruits.

Farm 228 is known as "Langsyne," the property of Mr. R. D. Lang, who specialises in 30 acres of canning Peaches and 25 citrus, and has his own packing house, suitably equipped. Citrus, branded with the "Langsyne" label, is a guarantee of quality.

Heavy crops are obtained, 500 tons of stable (organic) manures, supplemented by some artificial fertilisers are used annually, this (stable) is delivered per truck to the orchard at 10/- per ton. Mr. Lang is a firm advocate of organised marketing and co-operation, and is an executive officer of the Fruit Growers' Co-op. Society.

A pleasing feature of the M.I.A. is the attitude of leading executive officers, who not only sit on the board of their local concern, but interlap on other fruit co-op. societies. For instance, the "Leeton" Fruit Growers' Co-op., the "Griffith" Producers' Co-op., the "Yenda" Producers' Co-op., are represented by their executives on the Leeton Co-op. Cannery and Cool Stores, thus making for output control.

(To be continued.)

WOOD WOOL

Finest Grade for Export Fruit.

STRAWBERRY BOXES.

and Fruit Containers.

Prices and Particulars on Application to

AUSTRALIAN BERRY BASKETS CO.

175 Kent Street, Richmond, Vic.
Tel. J1263.



Portion of the main Irrigation Channel at Griffith, N.S.W.

GRIFFITH

(Continued from our July issue.)

Turning south from Taylor's, the traveller passes Mr. Leneham's property of ten acres of well grown Almonds in three varieties, also many acres of trellised vines (nearly all vines are on wires in this district), which is the home for the Almond and vine.

Further south is Mr. Martin's 58-acre property, the house being reached via a Pinus Insignis avenue, which trees are rare in this district, the locality being better suited to the Eucalypts. Some splendid specimens of Tasmanian Sugar Gums are growing on south of homestead. Mr. Martin chiefly grows Grapes, and these trees harbor fruit-eating birds, therefore these beautiful trees will receive the axe, spoiling the breakwind.

It has been suggested that birds should be poisoned, using reject Currants, dipped in solution of strychnine and spread handy for the birds. There is plenty of this material to be had for the taking, where Currants and Sultanas are processed. The time to do this is three or four weeks before ripening time, and onwards. This was done with success by a Quantong (Victorian) grower some years ago. Then again, the tethered hawk scheme would help—also the glittering mirror.

Going west, we reached Mr. J. Piper's orchard, and were instantly filled with admiration of the well kept lawns and hedges, flower gardens and general surroundings. The orchards, orangeries and vineyards are examples of cultural efficiency.

Comfortable residences have been erected on the estate for married employees, and there is no journeying

to and from work, making for good labor and economy.

Crossing the channel, the "Quince King," Mr. R. J. Piper's is entered. Like his brother, this grower is thorough in his methods, claiming that the advice received through the "Fruit World" has always been helpful, and the general news most interesting. Here also employees live on the place, also extra hands put on at peak periods.

Fifty acres are planted with Quinces (Van Diemens and Masters Early); Prunes (D'Agen and Robe de Sargeant); Almonds (Brande's Jordan, I. X.L., and Nonpareil), and Oranges, Lemons, Apricots and Grapes. Cover crops are sown down every other year with blood and bone manure, and the alternate years are given a heavy dressing of sheep manure. The land is thrown up in an open condition in the Autumn, and left thus until the Spring, and then worked down to a fine tilth—under these conditions the Winter rain penetrates and is conserved. Prunes are dried and sent to Sydney and there boxed and graded. Some Quinces also are dried, and quite a good sample made. These are cut in slices, dipped in salt water, sulphured and put through the dehydrator.

When first taking up this land, some 24 years ago, pigs were Mr. Piper's first venture, and the proceeds from these built the residence, now surrounded by wide verandahs, which makes for comfort in this climate. Quite a unique innovation in the form of a well trimmed Lemon hedge at the front and Mandarin hedges at the rear, surround the home and gardens.

The Bave-U Power Sprayer



Inspect the New Models at the Royal Agricultural Show—Stand 97 Smith St.

RUSSELL & CO. Manufacturers
BOX HILL, VIC.

Fruit Trees & Fruit Tree Stocks

Splendid Stock of Healthy Plants Available.

APPLES, PEACHES, PEARS, PLUMS, APRICOTS, CITRUS, ETC., PACKED AND DESPATCHED TO ALL PARTS OF THE WORLD.

Overseas Orders receive careful and prompt attention.

Catalogue printed.

Code A.B.C., 5th Ed.

C. A. Nobelius & Sons Pty. Ltd.

Gembrook Nurseries, EMERALD, VICTORIA

'Phone: Ringwood 171.

THE BENSEMANN (Screw Type)

FRUIT GRADER

will be exhibited in operation at

MELBOURNE ROYAL SHOW
September 23rd to October 2nd

SEE IT AT STAND 229

Just behind the Victorian Producers' Co-op. Stand in
Skene Street - Showgrounds

Comment from a leading Nelson, N.Z., grower, one of many in New Zealand using the Bensemann Grader:—"The machine is a good one, very silent and most efficient."

E. H. T. BENSEMANN - MOTUEKA, N.Z.

To the south and adjoining, is the property of Messrs. P. Delve & Sons, in addition to an extensive orchard, they are producers of wheat, rice and hay. Here are large plantings of Almonds (Brande's, I.X.L., Hatch's Non-pariel); Figs (Adriatic, Smyrna, and Capri); Peaches (Golden Queen); Oranges and Apricots.

On wet days, and when time can be spared, these orchardists do some blacksmithing for themselves — recently designing and manufacturing a twelve-furrow disc plough, to suit their special requirements. A job that would grace the efforts of any implement maker. This orchard is heavily manured and scientifically cultivated.

Mr. Joe Carruthers has one of the best cultured orchards in the famous district of Griffith, quite close to the town, comprising about eleven acres. Oranges, Apricots and Peaches are his speciality, with young plantings of Almonds.

The two-year-old Peach trees have made 10 ft. of growth. His Oranges have averaged over six bushels per tree for a number of years.

About three miles south of Griffith, on an easterly off road from Darlington Point-road, is the 23-acre property of Messrs. Bishop & Boundy. These partners, who secured the property a few years ago, have thoroughly renovated and renewed the orchard. Cover crops of Beans and other legumes, are regularly sown down with super in the Autumn. Sulphate of ammonia is applied to

each tree in proportion to the size of that tree. Several varieties of fruit are grown, but eventually the orchard will become a Washington Navel grove, plus Quinces. The present cropping of the Oranges averages over six cases per tree per annum, and the four acres of Quinces yield 30 tons each year.

These growers find that one fumigation every 24 months is sufficient to keep the fruit free of scale, with six arsenical sprays for the Quinces.

Mr. J. W. Melville, near by, has 21 acres of fruit trees, showing expert management in the condition of Golden Queen, Elberta, D'Agén, Robe de Sargeants, Washington Navel and Grannies. Cover crops are the order here also, and are sown down with super. and many tons of sheep manure, priced at 28/- per ton delivered per truck on the place in up to eight-tons loads. All the fruit is processed at the Co-op., thus eliminating the cost of a packing shed and equipment on the orchard. The Producers' Co-op. supplies the lug cases, effects insurance and attends to the finance.

Mr. A. Day's, farm 131, is of 51 acres of variety fruits, the bulk area being under vines, all trellised.

This grower is one of the early vine men here (the property adjoins the "Hanwood" Winery), and has demonstrated to many of his neighbors the correct methods of vine culture.

Penfolds made their first purchase load of Grapes from Mr. Day when starting in Griffith. (To be continued.)

NOW! The perfect power unit for the FRUITGROWER!

Sunshine Massey Harris Orchard Tractor

SUNREACH Orchard Disc Cultivator



Practically Eliminates Hand Chipping

Has five 16-inch discs (reversible), and four 15-inch control coulters. Will cultivate right under the trees, with horses and driver well clear of the branches. Driver, by means of lever, can angle the control coulters, and so guide the implement around tree trunks. Control coulters set well to the rear—discs are held up to their work and are guided at will.

NEW!



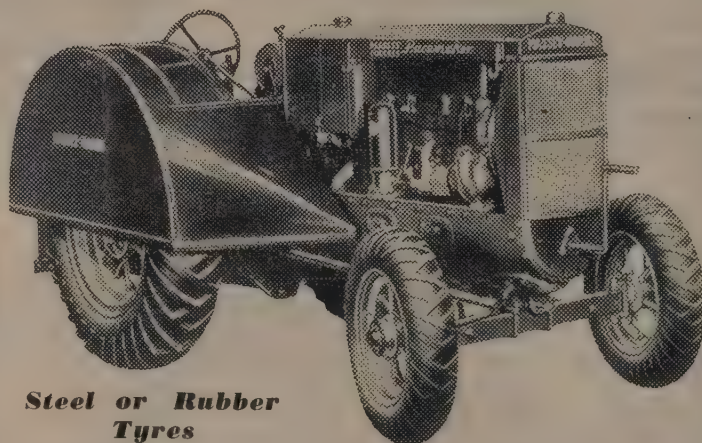
SUNMASSEY Orchard Cultivator

With 7, 9, 11, or 13 tynes, for orchard or vineyard work. Spring or rigid tynes. Unexcelled for destroying weed growth.

Supplied with Pole and Swings or Forecarriage. Heavy pressure can be placed upon the sections by means of the C-Spring. One lever raises and lowers both sections.

Welcome to the... MELBOURNE ROYAL SHOW

We have many interesting things to show you at the Sunshine Massey Harris Pavilion and Display Ground. Please call! Skene Street, Melbourne Showgrounds.



Steel or Rubber Tyres

A specially-designed and economical Tractor with POWER TO WORK ANY ORCHARD IMPLEMENT — including the grubber for sub-surface cultivation.

It has all the advantages that make Massey Harris Tractors supreme for low fuel consumption and long trouble-free service, plus these special features:—

1. Low set and streamlined.
2. Shorter wheelbase.
3. Turning brakes for quick turning between vines or trees.
4. Steering wheel adjustable for height.
5. Lower platform.
6. Special guards which enable tractor to be used close under branches without risk of damage to trees or crop.

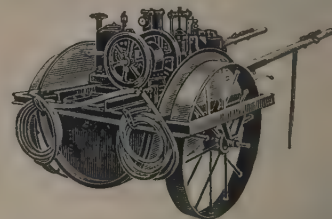
Backed by the H. V. McKAY MASSEY HARRIS three-point service:—

1. Highly-qualified service and engineering staffs.
2. Australia-wide organisation of practical field experts.
3. Complete, constantly-available stocks of duplicate parts.

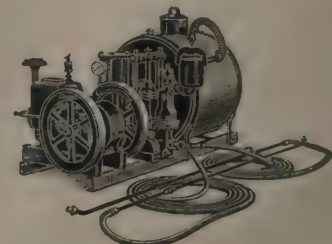
CATALOGUES
FREE ON
REQUEST.

**H. V. McKAY
MASSEY HARRIS
PTY. LTD.**

Thorough Coverage— Easily, Quickly, Surely! Sunshine Power Spraying Plant



Comprises the tested and reliable Sundial 2 h.p. Petrol Engine, connected by gear drive to a pump featuring porcelain-lined cylinder, extra large air chamber, accessible double-wear valves, strainer and Y-hose connection. Exceptionally high pressure. Engine can be used for belt work. Mounted on a 2-wheeled carriage. Includes 100-gallon wooden vat.



For use on lorry or dray . . .

The perfect outfit for smaller growers to achieve greatest efficiency in spraying trees, vines or row crops. Same engine and pump as above, but mounted on strong frame of channel steel.

**Sunshine Harvester Works,
Sunshine, W.20, Victoria**

And at Melbourne, Sydney, Adelaide, Perth, Brisbane

Fruitgrowers' Federation of New South Wales

Report of Board Meeting, August 12 - 13

Present: General J. Heane (in the chair), Messrs. A. U. Tonking (Orange), A. E. Herring (Batlow), W. C. Dickinson (Young), G. G. Moss (Yenda), K. H. Todd (Griffith), E. Ray (Bathurst), F. B. Mackenzie (Kurrajong), H. C. Matheson (Grose Wold), P. W. James (Dural), R. E. Arundel (Wedderburn), A. S. Brown (Ourimbah), A. E. Lillicrapp (Mangrove Mountain), A. J. Taylor (Warkworth), J. M. Ballantyne (Kentucky South), H. A. Stevenson (Murwillumbah), John Malley (Woolgoolga), L. T. Pearce (Market Representative), and E. E. Herrod (Secretary). The new members of the Board, Messrs. G. G. Moss, J. Malley and W. C. Dickinson were welcomed by the chairman.

Vice-Presidents: From nominations received the following were elected as Vice-Presidents. Messrs. A. U. Tonking and F. B. Mackenzie.

Bud Selection Committee: The Board nominated the sitting members, Messrs. Heane, Such, Robinson, Mackenzie and Brown for appointment to the Board of the Co-operative Bud Selection Society.

A discussion arose from a conference resolution regarding the formation of a Deciduous Bud Selection Society. A sub-committee consisting of Messrs. Herring, Ray, Todd, Arundel and Taylor were appointed to make the necessary investigations and report.

Drought Conditions and Assistance to Growers: Reference was made to the recent decision of the Government to make available a sum on loan to growers reduced to necessitous circumstances owing to drought conditions, and it was decided to approach the Government by deputation to endeavor to have the conditions of the offered assistance reviewed. It was felt by members that in certain circumstances a grant should be made.

New Zealand Embargo: The following extract from correspondence sets out the latest official announcement:

"The present position is that the Dominion Government has authorised the admission of 180,000 cases of South Australian Oranges during the period May to November, and the admission during the period December to April next of Oranges from South Australia and fly-free areas in New South Wales and Victoria without quantitative limitation.

"With regard to the period May to November, the New Zealand authorities have advised that the permitted importation of 180,000 cases of South Australian Oranges, together with anticipated arrivals from the Cook Islands, is expected to be sufficient to supply the local demand for citrus fruits. If that quantity is found not sufficient, importation of further quantities from fly-free areas in Australia will be permitted.

"As to the term 'fly-free areas,' the Dominion Government has intimated that it is intended that Oranges should be admitted only from fly-free areas, such as the Murrumbidgee area whence, it will be remembered, certain quantities were imported into New Zealand last December. The question of defining such areas and the form of certificate which will be required is at present being gone into by the New Zealand authorities, who propose to definitely advise in this regard at a later date.

"The Acting Prime Minister has, however, again communicated with the New Zealand authorities, pointing out that the exclusion of the coastal areas of New South Wales, coupled with the prohibition of

shipment prior to December, will strictly limit the quantities of Oranges offering for export, with consequential price repercussions, and will not permit of Mandarin shipments at all. Emphasis has been placed on the opportunity afforded by the current market supplies of Australian Oranges, Mandarins and Lemons to meet the requirements of the New Zealand market at prices favorable to the buying public, and the Acting Prime Minister urged that advantage be taken of this opportunity by withdrawal of the restrictions against Australian citrus fruits and reversion to the conditions which operated before the institution of the embargo."

Conditions at Darling Harbor: The unsatisfactory conditions existing for the unloading of fruit at Darling Harbor were again referred to and it was decided to make further representations to the railway authorities in an endeavor to secure overhead cover in order to protect fruit from rain during unloading.

Apple Publicity Campaign: A strong plea was made for finance for the N.S.W. Committee. Members expressed astonishment that the Australian Apple and Pear Council were not making part of the cash contributed by the N.S.W. Government available for expenditure by the local committee. It was reported that a good deal of work is being done by the local committee, which was considerably hampered through lack of funds.

Banana Ripening Rooms: In view of the obstructive tactics against the proposals of the Banana Growers' Federation to secure space at the markets for the erection of ripening rooms, it was decided to protest to the Government to what appears to be unfair discrimination.

Readjustment of Fruit Stands in the Markets: The Board considered a suggestion that the method of allocation of agents' stands in the New Markets now being erected might cause trouble and a committee was appointed to watch the position in the interest of growers.

COMPLETE SPRAYING EQUIPMENT.

The Ronaldson-Tippett spraying plant will be demonstrated at the forthcoming Melbourne Royal Show. Special attention is directed to the outstanding features of the Ronaldson-Tippett spraying equipment which includes the Ronaldson-Tippett type engine noted for its cheap running and accessibility, the drive chain which is totally enclosed gives years of lasting service, pump cylinders are of exclusive design the special stainless steel ensuring long life to the cylinders and to the pump leathers. The agitator is a special four-bladed propeller type ensuring perfect agitation of all mixtures.

Classified Advertisements

TENDERS closing at Batlow September 15, 1937, are called for the supply of 100 to 150,000 first quality Standard Apple Cases and 20,000 Standard Pear Cases. The lowest or any tender not necessarily accepted. —Batlow Packing House and Cool Stores Rural Co-op. Society Ltd., Batlow, N.S.W.

PASSION FRUIT GROWERS—Man thoroughly experienced all branches wants work. Capable full control, personal credentials. — Apply L. Boulter, Pakenham Upper, Victoria.

Orchardists' and Fruit Cool Stores' Association of Victoria

Report of Quarterly Meeting

The quarterly meeting of the above Association was held at C.T.A., Melbourne, on August 24, when there were present:—Mr. L. G. Cole (President), Messrs. Lawford and Moore (Blackburn), Mock and Fankhauser (Burwood East), Langley (Croydon), Finlay (Diamond Creek), Bloom (Doncaster East), Whitton, Petty and Williamson (Doncaster West), Lang (Harcourt), Sprague (Hastings), F. Petty and Tully (orchardists), Pump (Ringwood), White (Somerville), Willoughby and Coles (Tyabb), Byrne and Finger (Wantirna), H. Petty (Tecoma), and F. G. Pyke. Apologies were received from Messrs. Mair, Aird, and Pearson.

Minutes of the previous meeting were read and confirmed.

Arising out of correspondence, the following matters were discussed:—

Engineers' Association: A report from the Executive that in view of all circumstances it is not advisable to proceed with the organisation of an Engineers' Association. Action of the Executive was endorsed.

"Port Brisbane" Case: Letter from the Batlow Packing House and Cool Stores' Rural Co-operative Society Ltd., advising that by mutual agreement a payment by the shipping company of £4,000 had been accepted in full settlement of the Society's claim.

Engineers' Association: A report was received from the Executive Committee with reference to the formation of an Engineers' Association, which stated that in view of all circumstances, it is not advisable to proceed with the organisation.

"Port Brisbane" Case: A letter was received from Batlow advising that by mutual agreement between the Batlow Co-operative Society and the shipping company, the case had been settled by payment by the shipping company of £4,000.

Cool Stores' Investigation: The President stated that a Committee had been appointed, but that this Association had no representation. He stated that he had attended a meeting at which space in cool stores was requested for other commodities than fruit following the recent fire at the

Victoria Docks. Delegates admitted that there was a shortage of storage space and recommended the rebuilding of the cool stores at the Victoria Docks.

Wood Wool: The Secretary tabled quotations received from Austria for a very good class of wood wool. He was instructed to refer the quote to affiliated cool stores upon request.

Freight on Pears: A letter from the Victorian Railway Commissioners, in reply to representations made by the Association regarding the lowering of the tonnage minimum on fruit loadings, stated that under the circumstances of the low railway freights the Commissioners regretted that the application of the Association could not be acceded to.

Sales Tax: In reply to a letter from the Association asking for a remission of the sales tax on certain orchardists' requirements, including cases, the reply was received that this matter would be considered by Government when considering the budget.

Fruit and Vegetables Act: A letter received from the Department of Agriculture enclosing a copy of the regulations covering grade standards and deleterious substances in fruit, advised that the regulations will be strongly enforced.

General Business.

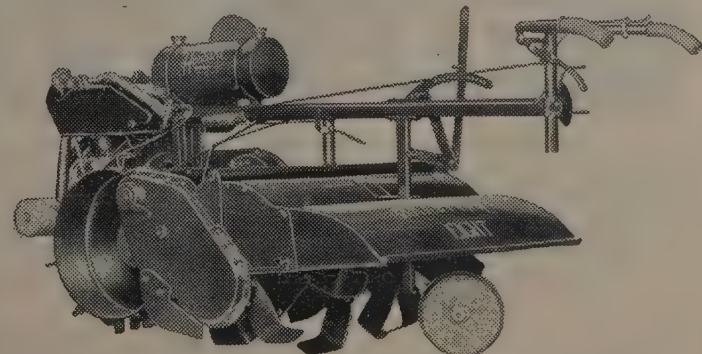
Harcourt delegates put forward a recommendation that the three-minute limit on trunk telephone calls be increased to four minutes. Col. Lang stated that this would not incur much loss to the Telephone Department and would be beneficial to country subscribers. Other organisations are pressing for action and the support of this Association is desired. It was agreed that such support should be given.

The Closing of Fruit Shops: A letter was read from the V.F.M.A., stating that in view of the matter of the closing of fruit shops, coming under the Shops and Factories Act, no further action would be taken. Members, including growers selling at the Victoria Markets, stated that the Saturday closing has definitely limited

TILL YOUR LAND

... with a ...

Howard Rotary Hoe



Howard Rotary Hoe "EIGHT" — the ideal machine for ORCHARD CULTIVATION. Cuts 3 feet width and up to 8 inches deep.

Another model is the "ROTARY HOE JUNIOR," which cuts 18 inches to 24 inches in width, and is particularly suitable for MARKET GARDENERS and NURSERIES.

Victorian Distributors—

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Cr. Smith Street and Patterson Avenue

sales. The matter was left in the hands of the executive to take any action considered advisable in the event of any move by fruiterers towards the alteration of these regulations.

Storemen and Packers Award: The Secretary reported that the Association had been asked to co-operate with the V.F.M.A., and read a suggested award presented by the Secretary of the Storemen and Packers' Union. Amended rates had been submitted by the V.F.M.A. as more equitable. The executive was authorised to continue negotiations in conjunction with the V.F.M.A. and the union.

Fruit by Count: The President reported that the Minister for Agriculture had refused to put the question to the Cabinet until all parties, producers, sellers and consumers agreed that the change is desirable. It was the feeling of the meeting that pressure should be continued towards the acceptance of the principle of selling fruit by count.

Fruit Statistics: The letter was received from the Southern Fruit Growers' Association, deprecating the publication of statistics of fruit held in cool stores, together with comments

upon same. The Secretary reported having written the Government Statist pointing out that the publication of comments is not in the best interests of growers. The Statist replied that although statistics are released regularly, he has now asked the local press not to make comments.

Publicity Campaign.

Mr. Frank Moore attended and outlined the present publicity campaign for Apples and Pears now proceeding. He gave a very full report of what arrangements had already been made and what the campaign committee planned in the form of educational publicity and stated that the campaign would carry on for another month, including Apple Week from August 30 to September 4.

The Sydney Committee plans to carry on for at least another month. The programme includes radio talks, newspaper publicity, shop window displays, and the professional side is receiving the co-operation of doctors and dentists.

Mr. Moore's report received the endorsement of the meeting and a hearty vote of thanks was extended to him.

Canned Fruit News

AUSTRALIAN CANNING FRUIT GROWERS' ASSOCIATION.

Officers Elected.

At the annual meeting of the Australian Canning Fruit Growers' Association, held at Shepparton, as we went to press for last issue, the following officers were elected for the ensuing year:—

President, Mr. V. C. Williams (Griffith, N.S.W.); Vice-President, Mr. G. Lang (Leeton, N.S.W.); Secretary, Mr. W. Young (Ardmona); Executive, Messrs. Mallinson (Griffith), Longhurst (Yenda), G. Lang (Leeton), S. P. Cornish (Ardmona), J. G. B. McDonald (Shepparton East), and F. Cooper (Lancaster).

The Association consists of the affiliated Northern Victoria Fruit Growers' Association and the Murrumbidgee Fruitgrowers' Associations, which, together, are estimated to pro-

duce 95 per cent. of the canning fruits grown in the Commonwealth.

Survey of Industry.

The meeting concentrated on a general survey of the canning fruit industry.

Disapproval of the Federal Government's failure to take more active steps in securing increased Imperial preferences was expressed.

KYABRAM CANNERY EXTENDS.

About 25 men, including a proportion of Kyabram laborers, are engaged on replacements, extensions and additions to the Kyabram Co-operative Fruit Preserving Company's cannery.

The improvements include the replacement of the wooden walls with brick on the northern and southern sides of the original factory, which is being extended 75 feet on the southern side, and the erection of a commodious case factory on the western end.

Good progress has already been made with the work, which will be completed in ample time for next processing season.

CANNED FOODS IN ENGLAND.

Two-Thirds Imported.

Great Britain consumes 30,000,000 cans of food per week, stated Dr. F. Hirst, Director of the Campden Fruit Preservation Research Station recently. Of this enormous quantity two-thirds have to be imported.

The canning industry is about the only one which has received no assistance from the Government and has made its way by sound commercial methods. Since 1914 the population has grown by 4,000,000, yet the arable land has decreased by 2,000,000 acres, and agricultural workers have left the land in large numbers.

In the event of hostilities, said Col. C. N. Joseph, who presided at the opening celebration of a new extension to the Stratford-on-Avon Cannery, the country would be largely dependent upon imported canned foods, and therefore the canning industry should be encouraged.

CANNED BRIEFS.

During June, Malaya exported 283,000 cases of canned Pineapples, 27 per cent. more than in May, yet 20 per cent. less than in June, 1936. Exports to Great Britain decreased in comparison with last year, but increased to the Continent of Europe. For six months ending in June, 1,311,800 cases had been exported, 6 per cent. increase over the period last year.

Italy's exports of canned Tomato products were very heavy up to July. In the four months ending with April, 23,337 tons had been exported, as against only 7,272 in the corresponding period of last year. The 1937 crop of Tomatoes is reported to be heavy.

California carry-over of canned fruits is below normal, and crop reports for the current season suggest a harvest slightly above the average. Prices will not be below 1936, and may even be higher.

Hunt Bros., of Suisun Cannery, Cal., packed 123,000 cases of canned Asparagus in 69 days during the 1937 season ending on June 20.

THE BEST BOTH WAYS



The FEDERAL 2 FURROW REVERSIBLE DISC PLOW (PATENTED)

The Federal Reversible Disc Plow is adaptable to all conditions of soil cultivation. It cuts an even bottom, leaves no ridging, turns the sod well over.

It has the following new features:—

1. Free from side draft.
2. Improved means for adjusting breast and undercut.
3. Each disc carried on independent supports.
4. Disc bearings interchangeable.
5. Dual wheels can be fitted for hard and specially hilly conditions.

6. Works with a loose neck yoke—no more sore shoulders.
7. All adjustments are simply and easily arranged.
8. Patented 3-horse abreast yoke available if required.
9. All bearings are of oil bath type.
10. Turns sod equally well on flats and hillsides.

Convertible to take
Orchard Attachments
of Various Kinds



Spring Tooth Cultivator Attachment.



Disc Harrow Attachment.

Manufacturers and Distributors:

T. ROBINSON & CO. PTY. LTD.

Head Office and Works: SPOTSWOOD, W.14, Victoria.
Show Rooms: 536-538 BOURKE ST., Melbourne, Vict.
Sydney Depot: RAILWAY PARADE, BURWOOD, N.S.W.

ORCHARD IMPLEMENTS AND FRUIT PROCESSING EQUIPMENT AT THE MELBOURNE ROYAL SHOW.

Beetle Back Citrus Cultivator.: This is an attachment for the Harvey One-Way Disc Cultivator Chassis. The disc cultivating frame is very low set, is equipped with five 16in. discs, which are mounted on separate bearings. Can be adjusted for both undercut and breastcut. The gang of discs are mounted on two wheels connected to a depth regulating lever, thus giving the maximum of angle, and minimum depth which does not cut small fibrous roots which grow close to the surface. A sheet-metal hood covers the extended cultivating frame, and tapers down at the front close to the ground, and is rounded down over the discs at the rear. This hood lifts up the branches while the discs cultivate underneath, and gently replaces the branches in their normal position.

Harvey Built Petty Plough.

One of the most outstanding implements for orchard ploughing and cultivating. It ploughs a strip right without effort, in heavy hard difficult positions, and couch grass is no bar to its ease of penetration. It ploughs away from and up to the trees with equal efficiency. A disc cultivating gang can also be attached.

The Harvey Patent Offset Tandem Disc Cultivator.

This implement works right out to one side of the tractor, and cultivates up to the butts of large spreading trees. The front gang cuts all one way to the right, and rear tandem gang cuts all one way to the left. This machine leaves the ground perfectly level, and does not leave a ridge in the centre like most other disc cultivators. The turning radius of the Offset Tandem Disc Cultivator is very short. The discs have wider spacing and do not chop the land too finely, and is the ideal cultivator for turning in cover crop.

Another implement of note is the Extended Disc Cultivator for thoroughly working heavy irrigation orchard land.

Graders.

The Harvey 1937-1938 Fruit Grader has reached the pinnacle of perfection. The efficient sizing element is the result of a careful study of the orchardist's requirements. It not only stands the flat fruit up upon its correct grading edge, but handles conical and the various ribbed Apples and Pears with excellent results.

Harvey Apple and Pear Washers are made in sizes from 250 to 6,000 cases per eight hour day. This machine removes lead arsenate from Apples and Pears without burning, bruising, or any way effecting the keeping qualities of the fruit. Apart from thoroughly washing same, it enhances the appearance, and adds prestige to the growers' packed fruit.

The foregoing is a short summary of some of the interesting orchard implements and fruit processing equipment which will be demonstrated by Daniel Harvey Ltd., at their stand situated at No. 70 Plummer-avenue. A cordial invitation is extended to all visitors to the show to inspect.

Whereas in 1926 fruit and vegetables represented only 16 per cent. of U.S.A. total exports, in 1936 they accounted for 46 per cent. of all exports.

Mrs. Clark: "Has your husband given up golf?"

Mrs. Foster: "Yes, but he still uses the language when changing tyres."

Up To Date Poultry Farming

VISIT TO AN EFFICIENT FARM.

Some people have got the crazy idea that a person who fails at any other business can go into poultry-keeping and make a good living. This idea suggests that poultry breeding is a thing that can be done without much brain-work. Others again, equally foolishly seem to think that poultry farming is an easy job and that the fowls do all the work.

People who start in the game with any of these absurd ideas will be sadly disappointed and are almost sure to fail—and blame the poultry game for what is really their own fault.

Even orchardists or general farmers who keep fowls for their own use for eggs or table meat, or those, and there are many, who see in poultry a good sideline to work in conjunction with other primary production, will do better with them, have more satisfaction and add to their cash returns if they do it just a little better than in a haphazard manner.

Successful poultry keeping is quite as much an art as is fruit growing and, as such, should be attacked with as much thought and science, since one is dealing with livestock which respond equally to either good or bad management.

An Efficient Poultry Farm.

To illustrate our argument, we briefly discuss here a typical commercial poultry farm run by a man who believes in efficiency in all that he does and finds that it pays. Not all orchardists will be willing to put into fowls what this man has done, but we submit that if the same principles, perhaps on a smaller scale, are followed, the part-time or supplementary addition, in the form of poultry keeping, will result in success that is demonstrated in profit.

The "Overport Stud Poultry Farm" is managed by Mr. Stan. Mentiplay who, when he took over the farm two

years ago, determined to run it well and show a profit from his management. Instead of being satisfied with a few ramshackle buildings, he gradually build up an orderly poultry farm in which method is the keynote, and common sense is harnessed to good equipment and good stock. These are the two main essentials, plus hard work and keen judgment.

Good Stock Pays.

Whether the poultry keeper runs a dozen layers for his own use or a thousand or more fowls as a business, he will find more satisfaction and better prospects from good stock than from any old "scrags" that he can get hold of, and the good stock will not cost any more to keep than poorer stock.

Having started with good stock then, he will be wise to have as good housing and equipment as he can afford and it should be of the permanent variety. He should plan carefully so as to conserve time and labor and save his eggs in doing the normal jobs around the pens and yards. We will not here discuss the various systems that can be, or should be employed. A good poultry paper such as the "Australasian Poultry World" deals very fully with all phases of poultry management, and is well worth reading, but we will briefly describe "Overport" as one example of a well-run poultry farm.

Although "Overport" has some 70 acres on a hill at Frankston, close to Melbourne, the smaller poultry keeper need not feel that this acreage is necessary, as many comparatively large poultry farms will be found on 2, 3, 5 or 10 acres, wisely used. Mr. Mentiplay runs about 4,000 head of poultry and is increasing his flocks quietly.

Orderly Buildings.

As the illustrations show, the buildings have been erected following some



Showing the type of "Overport" stud stock.

studied order and method and the work entailed is therefore minimised. Hard roads have been constructed around the farm that tend to make the work easier. All machinery, such as feed mixers and greenfeed cutters are driven by electric power, whilst storage bins are properly constructed and rat proof. There is no rubbish lying around and the sheds and houses are kept clean and tools are kept in their proper place when not in use.

Electric incubators and water pump and a heated brooder house for young chickens are only some of the efficient equipment seen on the farm. Wet mash is the feeding system adopted, with plenty of green feed at mid-day and grain at night, the usual method of feeding on most farms.

Anyone able to tell good stock by pictures will realise that "Overport" breeding stock is dependable, and anyone wanting day-old chicks of reputed strain can be assured by knowing that Mr. Mentiplay hatches no eggs except those from his own fowls. In this issue one can read "Overport's" advertisement offering chicks and breeding stock that are backed by Mr. Mentiplay's careful breeding.

At Victoria's first Baby Chick Show held by the Brighton Poultry Society recently, "Overport" won the championship for 25 day-old chicks under two well-known metropolitan judges.

In addition to this very brief report of an up-to-date poultry farm, visitors to the Royal Show are invited to visit "Overport" and personally see much more than can be described in the space available to this subject. Our text is still "If you run poultry, do it well and be successful."



A section of the orderly housing at "Overport."



DAY-OLD CHICKS—PULLETS

Australorps — White Leghorns — Lt. Sussex — R.I. Reds

Only Birds of Highest Quality, Bred & Reared on Free Range, are used as Stud Stock

Winner of First Victorian Baby Chick Show, Brighton, 28/8/37

DAY-OLD CHICKS

WHITE LEGHORNS—£25 per 1,000; £3 per 100; 30/- per 50; 15/- per 25; 10/- per doz.
AUSTRALORPS—£25 per 1,000; £3 per 100; 30/- per 50; 15/- per 25; 10/- per doz.
RHODE ISLAND REDS—80/- per 100; 40/- per 50; 20/- per 25; 12/- per doz.
LIGHT SUSSEX—100/- per 100; 50/- per 50; 25/- per 25; 15/- per dozen.

DAY-OLD PULLETS

WHITE LEGHORNS—£6/10/- per 100; 65/- per 50; 32/6 per 25; 17/6 per dozen.
AUSTRALORPS—£6/10/- per 100; 65/- per 50; 32/6 per 25; 17/6 per dozen.
RHODE ISLAND REDS—£8/15/- per 100; 90/- per 50; 45/- per 25; 25/- per doz.
LIGHT SUSSEX—£10 per 100; 105/- per 50; 55/- per 25; 30/- per dozen.

HATCHING EGGS

W. LEGHORNS—25/- per 100, 7/6 per setting.
AUSTRALORPS—30/- per 100, 7/6 per setting.
RHODE ISLAND REDS & LIGHT SUSSEX—40/- per 100, 10/- per setting.

BREEDING PENS

Carefully selected birds of good type and quality. Start now with the right stock.

SIX HENS & COCKEREL - 80/-

OVERPORT STUD POULTRY FARM (S. Mentiplay, Mgr.)
P.O. Box 68. FRANKSTON, VICTORIA. Phone: Frank. 335.



Implements for Land Clearing

**TREE and STUMP
PULLING**

★ ★

Monkey Grubbers and Jacks Provide Ample Power

Review of the Operations of Trehwella Bros. Pty. Ltd.,
Trentham—Victoria

MANY years ago the firm of Trehwella Bros., which commenced operation as sawmillers, was faced with the problem of clearing giant trees before the lands could be put to economic use. It was whilst engaged in this enterprise that the necessity arose for adequate equipment for log rolling and handling. As a result of the special study given to the class of implement required Trehwella Bros. produced the "Wallaby Jack." Other people desirous of clearing land got to know of this ingenious implement, and the firm decided to manufacture "Wallaby" Jacks in a commercial way.

OUTSTANDING LAND CLEARING MACHINES.

Three types of "Wallaby" Jacks are used, including a 2½ ton machine suitable for log rolling, the lighter kinds of lifts; a 4-ton "Wallaby" Jack for sawmillers and for general land clearing work, and a 6-ton machine where heavier lifts are required.

A further demand set in for a type of machine suitable for heavy grubbing work and Trehwella Bros. turned their attention to the production of the "Monkey" type of jack where the casing moves up the pillar. The 8-ton "Monkey" Jack, because the weight is applied on the down stroke of the lever, is very suitable for grubbing low down roots and stumps without the necessity of cutting the roots. The 10-ton "Monkey" Jack is a similar machine, but more powerful, and rises on both up and down movement of the handle. The "Monkey" grubber, probably the outstanding machine for land clearing purposes, was then produced. This grubber is remarkably serviceable as a hand power tree or stump puller, a feature being that it can be used when the ground is too wet for the use of an ordinary jack. Apart from tree pulling it can be used as a winch.

MONKEY GRUBBERS ARE OPERATED BY HAND POWER AND ARE PORTABLE.

The "Monkey" Grubber can be operated by hand power, is portable and remarkably efficient. The power for the "Monkey" Grubber is obtained by the application of a patented pawl and ratchet gear to a drum, to which the end of a steel cable is affixed. All wearing parts are made of the finest grade hardened, forged steel. The use of the finest steel available in manufacture has been the means of avoiding unnecessary weight. The machine is simple to operate: A cable from the drum is attached to the tree or stump, preferably high up; another cable goes to the tail of the machine low down, thus suitably anchoring the tree or stump; a few strokes with the handle and the ropes are taut; continuing, the pull increases until the tree or stump comes right away. The advent of the "Monkey" Grubber meant the end of

shovel and axe work where land clearing operations were necessary.

The value and efficiency of the "Monkey" Grubber are aptly summed up in the following opinion from a well-known farmer as follows: —

POWER OF 260 PAIRS OF HANDS.

"The 'Monkey' Grubber gave me the power of 260 pairs of hands in a simple and compact form. The short lever enables me to stand firm-footed and get the full stroke. There are two speeds in the machine, whilst the automatic release allows me to let off a strain.

"As the machine will work in any position, it comes in for all jobs that would require a chain block. It is simply taken to the job on a pair of wheels like a barn truck. Then it is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, simply operated and most effective. A sturdy



STUMP PULLING MACHINE READY FOR OPERATION.

snatch block with a novel method of securing to the ropes is an ingenious arrangement, as is also the firm gripping rope shortener which makes it very easy to accommodate the lengths of rope to the tree or stump being pulled."

Trehwella Bros. have been in business in Victoria since 1889, and whilst the early period of their activities was devoted to the production of land clearing implements, latter years have seen further developments in their products of various classes of tools

TOOLS OF ALL KINDS FOR LAND CLEARING.

which, although not as closely associated with the land as the tree and stump pullers, have their uses on every farm and orchard. Space does not permit of a detailed description of all of these tools, but some of particular interest include wood-cased jacks and pinion jacks, sawyers' bench gauges, wedges, hydraulic and screw jacks, snatch blocks, rope fittings, hammers and logging dogs, etc.

Trehwella Bros. have always been ready and willing to place their services at the disposal of fruitgrowers in all States in an advisory capacity where there is a stump-pulling job to attend to, and they have many appreciative letters from clients who have sought and followed their advice on tree clearing problems.

TREE AND STUMP PULLERS WILL BE DEMONSTRATED AT ROYAL SHOW.

At the forthcoming Melbourne Royal Show to be held from September 23 to October 2, Trehwella Bros. Pty. Ltd., will occupy their usual stand at 110 McCracken-avenue. A cordial invitation is extended to all visitors to the show to inspect their land clearing implements and the other tools described above.



GETTING THE PULL ON A STUMP.

Indisputable Value —



Metters' Improved Noxall Hand Sprayer

Only
£9-17-6

Complete

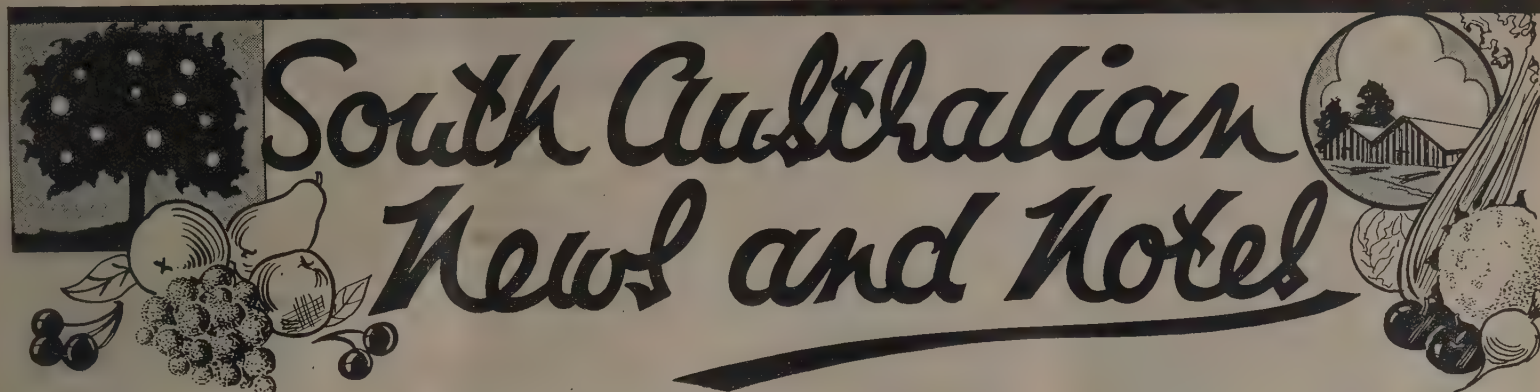
Manufactured by...

equipped with all Brass Mushroom Valves, Brass Plunger, Brass Packing Gland. Airchamber of ample capacity, 40 gallon Barrel, effective agitator, 15ft. special pressure hose and director rod as illustrated.

**Most Effective and Accessible
and Absolutely Reliable**

METTERS LIMITED
124 Rundle Street - - Adelaide





APPOINTMENT OF SECRETARY TO THE S.A. FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION.

The appointment of Mr. Stuart to the above position has given a great deal of satisfaction to members who have come in contact with him. The qualifications which he possesses for the position, coupled with his excellent personality, leave no doubt as to his ability to successfully carry out his duties. Members need have no hesitation in approaching Mr. Stuart on any matter connected with the industry. We wish him a long and happy term of office.

N.T.H.

NEW SECREARY—MR. A. STUART.

An Appreciation by Mr. L. G. Riches, M.P., Mayor of Port Augusta.

MR. ALFRED STUART, who has recently taken up duties as Secretary of the S.A. Fruitgrowers' and Market Gardeners' Association, hails from the far north of South Australia, and comes to Adelaide with an optimistic outlook born of his long association with the men of the great open spaces.

Born at Port Augusta and educated at the local Higher Primary School, Mr. Stuart hails from the centre where pastoral and settled areas meet—where city meets bushland—and after a life spent in dealing with South Australia's big-hearted sheep men, comes with the scent of the Salt-bush still fresh in his nostrils.

His experience in the north should stand him in good stead in his new position.

Mr. Stuart has taken a keen interest in the social and civic activities of his home town, and has held practically every position offering in the realm of field sport. A keen footballer (full back), captain of his cricket team, and a tennis enthusiast of no mean ability, he was sought after to accept executive positions in the conduct of various club interests. He was Secretary and Treasurer of the Port Augusta Institute and Port Augusta Institute Billiard Club, and Secretary of the Great Northern Sheep Dog Field Club at the time of his departure.

As Assistant Secretary and Advertising Manager of the largest trading and importing firm of the north, he held an important place in the commercial life of the community.

Of a musical turn of mind, and possessing a flair for the stage, he was always an enthusiastic supporter of the town choirs and was in demand for comedy rolls in amateur theatricals.

Mr. Stuart is also a keen churchman and his interest in this work is typical of the place he occupied in the general communal activity. At the time of his departure, for instance, he was Superintendent of the Sunday School, Trustee, Member of Choir, Knight Commander and Cricket Captain of the Order of Knights.

S.A. FRUITGROWERS AND MARKET GARDENERS' ASSOCIATION.

THE monthly executive meeting of the S.A. Fruitgrowers and Market Gardeners' Association was held in the Association Board Room on Friday, August 27, 1937, at 10.30 a.m.

Mr. N. T. Hobbs (President) presided over the meeting attended by Messrs. H. N. Western, J. Turner, J. G. Potts, H. B. Robson, H. W. Wicks, A. D. Chapman, A. E. Brealey, G. Jennings, R. A. Cramond, G. J. Strange, E. H. Schultz, C. H. Ragless, C. W. Giles, H. L. Cooke, C. Ridley, J. Randell, W. J. Bishop, Hanford, R. Cobbledick, and Secretary. The minutes were confirmed. Apologies were received from Messrs. L. J. Wicks, and A. C. Gibson.

Correspondence: (1) Letter from Hon. Minister of Agriculture, expressing his willingness to open the Annual Conference on September 24. (2) Mr. B. Flewell Smith, manager of the Committee of Direction, Brisbane, conveying his intentions to be present at the Conference. (3) Mr. A. G. Strickland, Chief Horticulturist, accepting invitation to open Annual meeting. (4) Metropolitan County Board re complaint received concerning painting of inside of tins for Raspberries, etc.

Messrs. W. J. Bishop and L. J. Wicks were re-appointed as representatives on the board of management of the Fruitgrowers and Market Gardeners' Society Ltd. on the motion of Messrs. J. B. Randell and C. H. Ragless.

Resolved that the revised rules as submitted by the sub-committee and confirmed by this meeting be recommended to the annual meeting for adoption. Mr. W. J. Bishop moved, supported by Mr. J. B. Randell, that the annual meeting carry the revised rules. Carried.

Discussion took place on the sale of containers with goods.

Resolved that the President, W. J. Bishop, and G. Jennings, form a committee to watch and enquire into a Bill entitled "Market Vendors' Bill" now be presented in the House of Assembly.

Financial statement was submitted.

Mr. R. Cobbledick advised that the Vegetable Section intended holding their annual dinner on September 18, and that any particulars could be obtained from the Secretary of the Section, Mr. G. A. Collett.

Mr. Giles moved that the arranging of the next Educational Meeting be left in the hands of the Vice-President and Secretary.

With Mrs. Stuart, he took a keen interest in the social life of the town.

He has a disposition which should guarantee his success in any walk of life, in which he makes contact with men; he has a bright outlook—a keen sense of humor; is easy of approach; quick to make friends; ready to lend a hand where needed—in short, he brings to the city the philosophy of the timberland.

We wish him every success.

MRS. KIMBER'S APPRECIATION.

Thanks for Many Tributes.

We have received the following letter from Mrs. Kimber, who asks us to convey the thanks of the bereaved family for the many expressions of sympathy received from individual persons, associations and the fruit trade generally.

(To the Editor and Staff of "Fruit World and Market Grower.")

Dear Sirs,

My family and I deeply appreciate your expression of sympathy in our bereavement.

I would so much like to thank, through your paper, the hundreds of loyal members of the S.A.F. & M.G. Association for the wonderful tribute paid to my dear husband, and their appreciation of his many years' service as their Secretary.

It is practically impossible to thank them all personally, and I shall feel grateful if you can find space in your next number to do so.—Yours faithfully,

(Signed) ANNIE M. KIMBER. Joslin, S.A., 25/8/37.

ANNUAL MEETING OF VEGETABLE SECTION.

The annual general meeting of the Vegetable Section of the S.A. Fruitgrowers' and Market Gardeners' Association will be held on Saturday, September 18, 1937, at the Association Board Room, Rundle-street.

Members are requested to attend when officers for the coming year will be elected, and matters of importance to growers will be dealt with.

The meeting will be followed by the annual dinner in the Newmarket Cafe, at 8 p.m. Tickets are available from the Secretary at the cost of 3/- each.

MEMBERS!

PLACE YOURSELF IN THE SAFE HANDS OF THE F. & M.G. Society Ltd.

We are accredited agents for

GENERAL ACCIDENT, FIRE AND LIFE ASSURANCE CORPORATION LTD.

Assets Exceed £15,000,000.

All Types of Insurance.

W. J. KIMBER, Secty., F. & M.G. S. Ltd.

NOTICES.

The Annual Meeting of the Fruitgrowers and Market Gardeners' Society Ltd., will be held at the Association Board Room on Friday, September 24, 1937, at 10 a.m.

Business—

Election of Officers.
Presentation of Reports.
Any other business.

11 o'clock:

Monthly meeting of the Executive of the S.A. Fruitgrowers and Market Gardeners' Association.

11.30:

Annual Meeting of the S.A. Fruitgrowers and Market Gardeners' Association.

Business—

Election of Officers.
Presentation of Reports.
Adoption of Financial Statement.

The Annual Meeting will be opened by Mr. G. A. Strickland, Horticultural Branch of the Dept. of Agriculture.

1.30:

Official Luncheon,

S.A. Fruitgrowers and Market Gardeners' Association will be held at Foy and Gibson's Dining Hall. Tickets can be obtained from the Secretary at 3/- each.

Invited guests will include:—The Premier of South Australia (Hon. R. L. Butler), Hon. Minister of Agriculture, Professor A. E. V. Richardson, Messrs. A. G. Strickland (Dept. of Agriculture), G. Quinn, R. Fowler, W. J. Stafford, J. H. Hobbs (Chairman of Royal Agricultural and Horticultural Society Ltd.), H. J. Finnis (Secretary Royal Agricultural and Horticultural Society Ltd.), R. Johnson (President Wholesale Merchants' Association), E. N. Bigg (Secretary Wholesale Merchants' Association), B. Flewell Smith (manager Committee of Direction of Fruit Marketing, Brisbane), A. Stevenson (Chairman N.S.W. Banana Marketing Board, and Banana Growers' Federation), H. J. Bishop (President S.A. Fruit Marketing Association), E. Whitfield Mills (Secretary S.A. Fruit Marketing Association).

Followed by—
2.30:

Annual Conference

S.A. Fruitgrowers and Market Gardeners' Association.

The Conference will be opened by the Hon. Member of Agriculture, and addresses will be given by Professor A. E. V. Richardson and Mr. B. Flewell Smith.

METROPOLITAN COUNTY BOARD.

August 24, 1937.

The Fruitgrowers and Market Gardeners' Association,
288a Rundle-street, Adelaide.
Dear Sir,

A complaint has been received at this office regarding the condition of the paint on the inside of tins used for containing Raspberries, etc.

My Board is desirous of bringing this matter under the notice of those concerned with a view to preventing

the use of such paints as may cause contamination of the fruit.

Your members, will, I am sure, readily see where such trouble may arise, and my Board would be pleased to receive your co-operation in bringing this matter before their notice.

Regulation 5 of the Food and Drugs Act, 1908, controls the matter of poisonous metals in foods.

Yours faithfully,

(Signed) SETH. A. GALE,

Secretary.

The South Australian Fruitgrowers' & Market Gardeners' Association

Incorporated.

Rules and Regulations

Name.

1. The name of the Association is The South Australian Fruitgrowers and Market Gardeners' Association Incorporated.

Objects.

2. The objects and purposes of the Association are:—

- To enable members to meet together for the interchange of information and the consideration of matters affecting the interests of members and for any other purpose.
- To secure the co-operation of fruitgrowers and market gardeners in advancing the interests of the fruitgrowing and market gardening industry generally.
- To establish, exploit, extend and create markets for the handling and disposal of fruit and other garden produce and to secure the best possible conditions for the handling and disposal of fruit and other garden produce in existing and future markets.
- To obtain the best possible facilities and conditions for the local, interstate and overseas carriage of fruit and garden produce and to ensure careful treatment of such fruit and garden produce by those engaged in handling the same.
- To obtain and publish in such manner as may be deemed desirable, information concerning the crops and the condition of fruit and garden produce and the markets for such fruit and garden produce in various parts of the world and other information of interest to fruitgrowers and market gardeners generally.
- To watch in the interests of fruitgrowers and market gardeners any legislation which may affect the fruitgrowing and market gardening industry and to furnish such information regarding the same and to take such action to secure the correction of existing or proposed legislation injuriously affecting or likely to injuriously affect the fruitgrowing and market gardening industry as may be deemed desirable.
- To provide a means of communication between fruitgrowers and market gardeners and State and Commonwealth and overseas authorities and generally to represent the fruitgrowers and market gardeners in all matters in which unity of action is desirable.
- To investigate garden pests and disease affecting plants, trees and vegetables and to investigate and distribute information concerning the best means of checking, curing or eradicating the same and to investigate and distribute information concerning manures and other matters of interest to fruitgrowers and market gardeners.
- To secure quotations, and to distribute information concerning freight, fruit-cases, manures, spraying materials and other matters and things of interest to fruitgrowers and market gardeners.
- To unite with other associations or organisations whether with objects similar to or differing from the objects of this Association in taking any action which may be considered necessary or advisable in connection with any of the objects of the Association.
- To purchase or otherwise acquire, and to sell or otherwise dispose

of any real or personal property or any estate or interest therein.

- To make and enforce from time to time regulations in connection with matters within the scope of the objects of the Association.
- To take such action as may from time to time be considered advisable to establish and improve the condition of the fruit-growing and market gardening industry.
- Generally to promote and protect the interests of members of the Association.
- To apply the funds of the Association towards any of the above objects or purposes.

Office.

3. The office of the Association shall be at No. 288A Rundle-street, Adelaide, in the State of South Australia or at such other place in the said State as the Executive Committee of the Association shall from time to time determine.

Membership.

4. Persons, firms and bodies (whether corporate or unincorporate) who or which are bona fide engaged in the growing of fruit and/or vegetables for commercial purposes shall be eligible for membership of the Association. The Executive Committee may refuse to admit as a member any person, firm or body (whether corporate or unincorporate) whom or which it deems inadvisable to admit to membership of the Association.

5. Any son of a member who is engaged in the business of growing fruit and/or vegetables for commercial purposes carried on by his father may become an associate member of the Association.

Subscription.

6. An annual subscription of £1 or such other amount as may from time to time be fixed by the Executive Committee shall be payable by each member. An annual subscription of 5/- or such other amount as may from time to time be fixed by the Executive Committee shall be payable by each associate member. Such annual subscriptions shall be due and payable in advance on the 1st day of September in each and every year.

7. Any member whose subscription is twelve months in arrear shall be deemed to be unfinancial and any member whose subscription is in arrear for two years shall cease to be a member of the Association.

Kindred Associations.

8. Any Association with objects similar to the objects of this Association may affiliate with this Association subject to the approval of the Executive Committee on payment of the sum of £1/1/- annually in respect of each one hundred members or portion thereof of the affiliated Association.

Executive Committee and Officers.

9. The management of the Association shall be vested in an Executive Committee consisting of a President, a Vice-President, the immediate Past President, ten members to be elected each year at the Annual Meeting of the Association and, subject as hereinafter mentioned, one delegate for every twenty-five members or portion thereof comprising each Branch and Section of the Association appointed by such Branch or Section of the Association, as the case may be.

10. No member of the Association whose subscription has not been duly paid to the end of the financial year immediately preceding the Annual meeting shall be eligible for election as a member of the Executive Committee or for appointment as a delegate to the Executive Committee.

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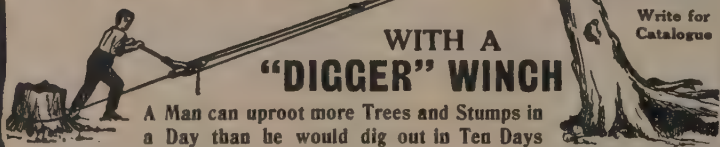
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S.A.F. & M.G.A. RULES & REGULATIONS (Cont'd)

11. Retiring members or delegates shall be eligible for re-election or re-appointment, as the case may be, and if an election or appointment does not take place or shall be invalidated, the members or delegates last elected or appointed shall continue to hold office until their successors are properly elected or appointed, as the case may be.

12. The Executive Committee shall meet not less than once in each calendar month. The President, or in his absence, the Vice-President of the Association shall preside at all meetings of the Executive Committee. In the absence of both the President and Vice-President the members of the Executive Committee present shall elect a Chairman to preside at the meeting. At all meetings of the Executive Committee, the President or other person presiding at the meeting shall have a deliberative vote and in the case of an equality of votes shall have a casting vote also.

13. At all meetings of the Executive Committee seven members present shall form a quorum.

14. In the event of any vacancy occurring in the Executive Committee the remaining members shall have power to appoint some member of the Association to fill the vacancy, provided, however, that if the vacancy is caused by the death or resignation of a delegate of any Branch or Section a delegate to fill the vacancy shall be appointed by the Branch or Section concerned.

15. The Executive Committee shall appoint a Secretary, a Treasurer (who may also be the Secretary) and an Auditor or Auditors and shall fix the remuneration (if any) to be paid to such Secretary, Treasurer or Auditor or Auditors and may remove any such Secretary, Treasurer or Auditor or Auditors upon giving one calendar month's written notice to such Secretary, Treasurer, or Auditor or Auditors as the case may be.

16. The Secretary shall be present at all meetings of the Association and of the Executive Committee and shall at all times keep a true and correct Register of Members of the Association and shall also keep or cause to be kept proper books of account and all other necessary books and shall make or cause to be made therein full and sufficient entries of all payments to and receipts by or on account of the Association and of all other matters and transactions which shall properly be the subject of debit and credit accounts receipt or payment in which the Association or its property may be concerned or interested so that the financial state of the Association may at all times appear as accurately and clearly as circumstances will permit and shall present at each Annual Meeting of the Association a duly audited balance sheet and statement of account and the Secretary shall also attend to and be responsible for all clerical work of the Association.

17. The Executive Committee may appoint Sub-committees to enquire into and report on any special matters. Any such Sub-committee so formed shall conform to any regulations that may from time to time be imposed upon it by the Executive Committee and shall not unless specially authorised to do so by the Executive Committee pledge or commit the Association or Executive Committee to any course of action. Each such Sub-committee shall render reports to the Executive Committee from time to time as the Executive Committee shall direct. The Executive Committee shall have the power at any time to dissolve any Sub-committee appointed pursuant to this Rule.

18. All acts done at any meeting of the Executive Committee, or of a Sub-committee of the Executive

Committee, or by any person acting as President or as a Committeeman shall, notwithstanding that it shall afterwards be discovered that there are some defects in the appointment of any member of such Committee or Sub-committee or person acting as aforesaid or that they or any of them were disqualified, be as valid as if every such person or persons had been duly appointed and was or were duly qualified.

Election of Executive Committee and Auditor or Auditors.

19. No person shall be eligible for election as President or as a Committeeman or as an Auditor at any Annual Meeting unless he has, not later than the 31st day of August preceding the date of the Annual Meeting, left at the office of the Association a nomination in writing signed by two financial members of the Association as proposer and seconder respectively and assented to by him signifying his candidature for the office.

20. If no more than the required number are nominated, they shall be declared elected, and if more than the required number are nominated the vacancies shall be filled by a show of hands or by ballot as the Chairman of the Annual Meeting at which the election takes place shall decide.

Meetings.

21. The Annual Meeting of the Association shall be held in the month of September in each year. At the Annual Meeting of the Association the report and balance sheet of the Association shall be read and the election of members of the Executive Committee shall take place and any other business, of which not less than one calendar month's notice in writing shall have been given to the Executive Committee, may be transacted.

22. The President may at any time and he shall on receipt of a requisition signed by not less than ten members of the Association and stating the business proposed to be transacted thereat, call a Special Meeting of the Association.

23. Seven days' notice at least specifying the place, the day, and the hour of all meetings and, in the case of special business, the general nature of the business intended to be transacted thereat shall be given in manner hereinafter mentioned to members. The accidental omission to give notice of any meeting to, or the non-receipt of any such notice by any of the members shall not invalidate the proceedings at any such meeting.

24. Fifteen members present shall constitute a quorum at all meetings of the Association.

25. At all meetings of the Association all questions shall be decided according to the votes of the majority of the financial members present and voting. Voting shall be by a show of hands or otherwise as the members present may decide. In every case the Chairman of a meeting shall have a deliberate vote and in the case of an equality of votes he shall have a casting vote also.

26. A member may vote either personally or by proxy. Every such proxy shall be appointed in writing signed by the member appointing such proxy.

Resignation.

27. A member may at any time resign from the Association by sending in to the Secretary in writing his resignation as a member.

Expulsion of Members.

28. If it shall be proved to the satisfaction of the Executive Committee that any member has committed a breach of the Rules or Regulations of the Association, or has

committed any other offence which the Executive Committee deems prejudicial to the interests of the Association or which is in any way likely to be prejudicial to the interests of the Association the Executive Committee may, after giving such member an opportunity to offer an explanation of his conduct verbally or in writing at a meeting of such Executive Committee, recommend at a general meeting of members of the Association that such member be expelled. Fourteen days' notice at the least of the Executive Committee's recommendation for such member's expulsion and particulars of the grounds for such expulsion shall be given to members in manner hereinafter mentioned. At the general meeting at which the Executive Committee's recommendation is to be considered the member whose expulsion is under consideration shall be allowed to offer an explanation of his conduct verbally or in writing. If the member is a firm then one of the partners or the manager or if the member is a company or other body corporate or unincorporate then a Director, Secretary or other officer may offer such explanation verbally or in writing. If thereupon the members present shall pass a resolution that such member shall be expelled such member shall thereupon cease to be a member of the Association. Notice of the passing of any such resolution shall be given to the member affected thereby.

Banking and Investment of Moneys.

29. (1) All moneys of the Association shall be banked in such bank as the Executive Committee may from time to time determine in the name of the Association and all payments shall be made by cheque signed by the President of the Association and counter-signed by the Secretary or such person or persons as the Executive Committee may from time to time appoint. At each meeting of the Executive Committee the Secretary shall present an account of amounts owing by the Association, and these if correct shall be passed for payment.

(2) So much of the funds of the Association as are not required for immediate use or to meet accruing liabilities may be invested by the Executive Committee in or upon such investments and securities as the Executive Committee may think fit.

Annual Report and Accounts.

30. The financial year of the Association shall close on the last day of August. The Executive Committee shall prepare a report on the Association's operations during each year and shall present the same together with a Balance Sheet and Income and Expenditure Account certified by one or more qualified Auditors at the Annual Meeting for the consideration of members. A copy of the Balance Sheet and Income and Expenditure Account may be obtained on application from the Secretary at any time after the Annual Meeting by any member of the Association.

Seal.

31. The Association shall have a Common Seal upon which shall be inscribed the name of the Association. The Secretary or such other person as the Executive Committee may from time to time appoint shall be the sealholder, and the Seal shall be kept in the custody of the Secretary or such other person and shall only be used when directed by a resolution of the Executive Committee, a minute of which resolution shall be duly recorded by the Secretary and to every deed or other instrument or document to which the Seal shall be affixed, two members of the Executive Committee at least who have been present at the affixing of the Seal as well as the Sealholder who shall also have been

present at the affixing of the Seal shall subscribe their names as witnesses.

Branches.

32. The members of the Association residing or carrying on business as fruitgrowers and/or market gardeners in any district may, subject to the approval of the Executive Committee form a Branch of the Association.

33. Each Branch may appoint such officers including a President, Vice-President and Branch Secretary and such Committees as may be necessary to manage the affairs of the Branch and shall make reports to the Executive Committee from time to time of the activities of the Branch.

34. Each Branch shall hold an Annual Meeting and may hold such other meetings at such times and places as the Committee of such Branch may deem advisable.

35. Each Branch shall be responsible for the collection of the annual subscriptions of its members.

36. Each Branch may retain such proportion of the annual subscription as shall be decided upon by the Executive Committee from time to time for Branch expenses and the balance of such subscription remaining after retaining such proportion as aforesaid shall be forwarded to the Secretary of the Association not later than the 31st day of August in each year.

37. Each Branch may from time to time make monetary levies on the members of such Branch of such amount and for such purposes as the Branch Committee may from time to time determine.

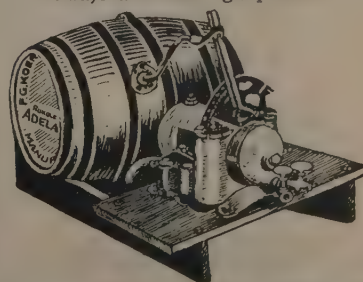
38. Subject as hereinafter provided each Branch may appoint as delegates to the Executive Committee one member of the Association (who need not be a member of the Branch) for each twenty-five members or portion thereof of the Branch provided that no Branch shall have less than two nor more than ten delegates. The Branch Secretary shall notify the Secretary of the Association of the names of the delegates appointed by the Branch not later than seven clear days after the same shall have been appointed. Any delegate may appoint a member of the Association to act as his proxy provided that such appointment shall be in writing signed by the delegate appointing such proxy.

39. Each Branch Secretary shall forward to the Secretary of the Association not later than the 31st day of August in each year a list of the names and addresses of the members of the Branch.

40. No person, firm or body (whether corporate or unincorporate) shall be eligible for membership of any

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Rules and Regulations cont'd.

Branch unless he or it resides or carries on the business of a fruitgrower and/or market gardener in the district in which such Branch is formed. The Committee of any Branch may refuse to admit as a member of such Branch any person, firm or body whom or which such Committee deems inadvisable to admit to membership of such Branch.

Sections.

41. Members of the Association who are growers of any particular product or class of products may subject to the approval of the Executive Committee form a Section of the Association.

42. Each Section shall appoint such officers and such Committee as may be necessary to manage the affairs of the Section and shall make reports to the Executive Committee from time to time of the activities of the Section.

43. Each Section shall hold an Annual Meeting and may hold such other meetings at such times and places as the Committee of such Section may deem advisable.

44. At the Annual Meeting in each year, one half, or such other proportion as the Section may determine, of the Committeemen shall retire from office, but shall be eligible for re-election.

45. Subject as hereinafter provided, each Section may appoint, as delegates to the Executive Committee, one member for each twenty-five members, or portion thereof, of the Section provided that no Section shall have more than ten delegates. The Committee of the Section shall notify the Secretary of the Association of the names of the delegates appointed by the Section not later than seven clear days after the same shall have been appointed.

46. A member of the Association may enrol in any Section or Sections formed in connection with the product or class of products of which such member is a bona fide grower for commercial purposes, but no member of the Association shall be eligible to enrol in any section, unless such member is a bona fide grower for commercial purposes of the particular product or class of products in respect of which the Section is formed.

47. The Secretary of the Association shall keep a record of the names of the members enrolled in each Section.

48. Each Section may from time to time make monetary levies on the members of such Section of such amount as the Committee of such Section may from time to time determine for the purpose of meeting any expenses which may have been incurred by the Section in marketing the particular product or class of produce in respect of which the Section is formed.

49. Any Section may, if it thinks fit so to do, pay the amount so levied into the funds of the Association, and in such case the Association shall meet the expenses incurred by the Section in connection with the marketing of the particular product or class of products in respect of which the Section is formed provided however that the Association shall not be called upon to pay any amount in excess of the amount of the levies so paid into the funds of the Association as aforesaid.

50. Each Section shall have absolute control over its own funds and may pay its officers such remuneration as it may from time to time determine. Except in the case of Sections which pay the whole of the amounts levied by such Sections into the funds of the Association pursuant to Rule No. 49 each Section shall keep proper books of account and shall present a Balance Sheet and Income and Expenditure Account certified by the Auditor or Auditors of the Association at the Annual Meeting of the Section and shall forward a copy of

RULES and REGULATIONS (Continued)

such Balance Sheet and Income and Expenditure Account to the Executive Committee.

51. Each Section shall refund to the Association all amounts paid by the Association on account of such Section including all amounts which the Association may be called upon to pay in respect of any contracts or other obligations entered into by such Section and the Association may recover such amounts from the Sections in such manner as the Executive Committee may think fit, together with all expenses incurred by the Executive Committee in connection with the recovery of the same.

52. At the end of each financial year of the Association the Secretary of the Association shall ascertain as nearly as may be the proportion of the expenses of the Association attributable to each of the Sections and to the extent to which the expenses incurred in respect of any Section shall exceed the amount paid to the Association by way of subscriptions by the members comprising such Section, such Section shall reimburse the Association out of the funds of the Section. In reckoning the amount paid by way of subscriptions to the Association in respect of a member who is enrolled in more than one Section, the amount of the subscription paid by such member shall be apportioned equally between the Sections to which each member belongs. The amounts to be contributed out of the funds of the Sections, pursuant to this Rule, shall be determined each year by a Committee consisting of three representatives of the Executive Committee and three representatives of each of the Sections, and the Executive Committee may recover from each Section the amount found by such Committee to be due to the Association by such Section in such manner as the Executive Committee may think fit.

53. No Section shall handle, or in any way deal with, the produce of any person, firm or body who is not a member of the Association or who is for the time being an unfinancial member of the Association except upon payment by such person, firm or body of a handling fee of an amount to be decided upon by such Section. The amounts received by way of handling fees from each such person, firm or body, or the sum of £1, whichever shall be the less, shall be paid by such Section into the funds of the Association.

Alteration of Rules.

54. No new Rule shall be made, nor shall any of the Rules herein contained or hereafter to be made, be amended or rescinded except at an Annual Meeting of the Association prior to which not less than one calendar month's notice in writing of the proposal to make such new Rule or to amend or rescind any of the Rules herein contained or hereafter to be made, shall have been given to the Executive Committee by the member proposing such new Rule or such amendment or rescission as aforesaid.

Notices.

55. (1) Any notice or document to be given or served by the Association or by any Branch or Section of the Association to or upon any member shall be deemed to be duly given or served if given by advertisement in manner hereinafter provided or by personal service upon the member or by sending it through the post as a prepaid letter addressed to such member at such member's last-known place of abode or place of business in the State of South Australia.

(2) Any notice to be given by an advertisement may be advertised once in any journal circulating amongst the members of the Association and recognised by the Asso-

South Australia

Mid-Murray Notes

MILDURA'S JUBILEE — EXAGGERATED REPORT OF PROFITS — COMMUNITY DRAINAGE SCHEMES — BEAN COVER CROPS — JUNIOR PRUNING COMPETITIONS — SUB-IRRIGATION EXPERIMENTS — FARM IMPLEMENTS — SPRAYS FOR CITRUS.

BECAUSE of the Jubilee celebrations in Mildura recently, for the purpose of commemorating the fiftieth year since the commencement of large scheme irrigation development in Australia, a good deal of publicity has been given concerning the development and achievements in this irrigation settlement in the metropolitan press. While this is quite what might be expected under the circumstances, it has, however, been accompanied by some exaggerated and fantastic statements regarding the monetary returns having been received by settlers in that district.

One statement appeared in a Melbourne daily to the effect that it was possible to get a nett return of £1,500 from a ten-acre block. It is not even possible to get a gross return of this amount from a ten-acre block. When we consider that the greater part of the cost of production is paid out in wages, such fantastic monetary returns as above mentioned are very misleading. It costs from £20 to £25 per ton to produce dried vine fruits, and with a nett return of from £25 to £30 per ton, it can readily be understood how irresponsible a statement of a return of £1,500 from a ten-acre block appears to the practical grower.

Our returns for dried vine fruits are, to a certain degree, governed by the proceeds from fruit consigned to the United Kingdom market, and the price factor in this market is determined by the law of supply and demand. Supplies coming from other producing countries come into competition in this market with our fruit on a basis of quality, and as competitive countries have a lower standard of living, competition is keen.

The United Kingdom market absorbs 29,000 tons of our fruits per annum, and is by far our biggest single customer. Canada takes about 16,000 tons. New Zealand absorbs

4,000 tons. The East takes 1,000 tons, while 15,000 tons are consumed in the Commonwealth. The production of dried fruit last season amounted to 65,000 tons, and had it not been for Spring frosts and unseasonable rains during ripening period, last year's tonnage might easily have reached a figure equal to our peak production of 70,000 tons. It is quite possible for this peak tonnage to be increased by an additional 5,000 tons in the next few years without any additional new land being opened for development.

Drainage Benefits.

One big factor influencing additional tonnage can be brought about by large scale community drainage schemes, such as are being carried out in the Mildura area, and in some of the South Australian settlements. Continuous irrigation has built up a quantity of surplus soil water, with the consequent loss of soil fertility, and the drainage schemes in progress enable this surplus water to be tapped and carried away to low-lying localities.

The result of drainage has brought about some remarkable recoveries, and land which has for a long time been out of cultivation is now coming into renewed life and productivity.

Furthermore, cover crops are now a routine practice, and have given good results. Cultural methods have improved in recent years to such an extent that our lands which were at one time considered poor, have gradually increased in production, while the better lands have also shown a corresponding improvement. For Australia to produce any higher tonnage than that already in sight may prove embarrassing from a marketing point of view, as the available markets of the world have reached saturation point.

This is a fact which Cabinet Ministers of various States need to keep in mind when pressure is brought to bear for the opening up of new areas for development under irrigation. That the position is appreciated by those at present in power is evident by the existence of what is known as a gentleman's agreement entered into by the States of South Australia, Victoria and New South Wales, on the matter of State development for the planting of vine fruits for drying.

Attempts have been made for a relaxation of this agreement, but in the event of this taking place marketing arrangements may easily become chaotic.

Bean Cover Crops.

Some very fine cover crops of Beans have been grown in the Renmark area this year, and each year

growers are endeavouring to get them matured by the end of July, so that the process of nitrification will not bring about the depletion of soil nitrates during the early development of young vine shoots. Late cover crops induce a deficiency of nitrates just at a time when the vine requires the maximum amount of this particular element.

With this end in view, the Renmark North and Chaffey Agricultural Bureau holds an annual cover crop competition, which is judged at the end of July. Mr. W. Giles was the most successful competitor this year, and Mr. G. Kubank had the next best crop. Mr. Giles' Beans stood 6 ft. high and Mr. Kubank's crop was 5 ft. 6 in. The winning crop was put in by the very economical method of mixing the Beans and super. together in measured quantities. Mr. Giles had a tin of mixed Beans and superphosphate in front of him, while riding on his cultivator, and by broadcasting it behind the horses, the crop was cultivated in this way in one operation. Beans at the rate of nearly 3 bushels per planted acre, and superphosphate at the rate of 4 cwt. per planted acre were used. Seed was planted and irrigated in March, followed by another irrigation in April.

Many cover crops judged had only received one irrigation, and were not to be compared with the winning crops. This year's competition has established the fact that cover crops of Beans can be matured by the end of July under our special climatic conditions, and, if necessary, would be far enough advanced by mid-July to serve a very useful purpose.

Pruning Competitions.

Under the direction of the Renmark North and Chaffey Agricultural Bureau, the junior pruning competitions were again instituted this year, and proved a great success. Dr. Erich Meier, who is attached to the Renmark District Agricultural High School, has been chiefly instrumental in reviving the interest in these particular competitions. A monetary grant from our community-owned hotel enabled the committee to make substantial prizes, that is, substantial from a boy's aspect, as a few shillings is considered a big item to them. One little fellow in the under 12 section, who won a prize, asked the writer how often these competitions are going to be held, because he looked upon it as "easy money." The High School, under the headmastership of Mr. S. L. Tregenza, B.Sc., has on its agricultural staff Dr. Meier and Mr. L. Laffer, B.Ag.Sc. Attached to the grounds of the High School is a plot of land planted with 2½ acres of Currants, 2½ acres of Sultanas, about 100 Washington Navel Orange trees, 40 Apricots, several varieties of Peaches, and other odd trees.

The boys, besides getting a sound education in the theoretical side of every phase of our work, are taught to handle and apply sprays, prune, propagate vines, bud trees, and they also get some practical knowledge of fruit drying operations.

Although the plot of land has only been planted up within the last few years, it has not yet been possible to carry out much experimental work, but a programme of future work will

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include experiments which are hoped to be of much practical value.

Sub-Irrigation.

Dr. Meier considers that a country like Australia needs to get the maximum amount of benefit from a minimum amount of water used, and with this end in view is experimenting with a system of sub-irrigation, a subject on which he carried out original experimental work while studying agricultural science in Germany. The principle involved in sub-irrigation is to have underground pipes filled from a cistern and constituted of sufficiently porous material to allow just enough soakage to supply adequate moisture for the requirements of the plant grown. The efficiency of the work depends upon the permeability of the pipes used, and as the work is of a new character, it may be some time before this experimental work is capable of yielding results of practical value.

Farm Implements.

Because of the general practice of growing cover crops, adopted by growers in the irrigation areas, a preference is being displayed for the use of implements of a rotary and

disc type, and manufacturers of this type of implement have not been slow to grasp the opportunity of demonstrating their goods. Each implement maker has some special feature to display on his disc ploughs, and improvements are noted on last year's models. These demonstrations come in for a good deal of candid and constructive criticism, besides much approval. I do not think many makers of implements have failed to make sales during a demonstration. Tractors and tractor implements are growing in popularity, and whereas the rotary hoe has been almost exclusively used in disposing of cover crops, the double gang tractor disc has done such good work that it may possibly rival the rotary hoe, chiefly in the matter of cost.

Sprays for Citrus.

Since the result of experiments carried out by Mr. A. G. Strickland, M.Sc., on the zinc treatment for Mottle Leaf on citrus, many local growers are using this spray for the purpose of supplying the trees with this minor mineral deficiency.

Mottle Leaf has puzzled citrus growers for some time, and it was not until Mr. Strickland demonstrated,

in various parts of the State, that Mottle Leaf was caused by a zinc deficiency. During March, 1936, individual trees were sprayed with zinc sulphate 10 lb., hydrated lime 5 lb., and 3 gallons skim milk, to 100 gallons of water. Another treatment consisted of a spray of zinc sulphate 5 lb., hydrated lime 2½ lb., and skim milk 3 gallons per 100 gallons water. All trees sprayed showed improved health in a very short time.

Subsequently, however, zinc oxide was substituted for zinc sulphate, and used at the rate of 3 lb. per 100 gallons water. The simplicity of using the latter spray is likely to make it more popular than the zinc sulphate-lime combination, especially in consideration of the fact that there was little to choose between the response to the two treatments.

The Renmark Irrigation Trust is taking a lively interest in the drainage of the Block E area. Owing to the flat nature of the country, drainage on orthodox lines is not possible, and to try and get rid of the surplus soil water, a sump has been constructed in a low-lying locality, and a position indicating a pocket of water. From this sump the drainage water is pumped some distance,

which eventually finds its way down to the polygonum flats adjacent to the river.

The work is only in an experimental stage at present, but it is hoped to get rid of a considerable amount of water in this way. In one low-lying position, drainage water showed an extremely high salt concentration, and it is hoped that by getting rid of this water by pumping, subsequent irrigations will dilute them sufficiently to counteract the poisonous action of water charged with highly concentrated salts.

A party of Block E growers recently visited this construction work, and are satisfied that something is at last being attempted by our governing body to alleviate the drainage position on Block E.—"Nemo."

CATERPILLAR TRACTORS.

Caterpillar tractors have proved ideal for orchard work because of their ability to work under any conditions. Some of the outstanding features of this type of tractor are their high wheels, the highest point being at the centre of the radiator; the machine can work close under low-hanging branches with complete safety to trees, spraying can always be done on time because the caterpillar tractor powers the pump and enables spraying to be done when wet ground conditions prevent horses working. Full width scarifiers, three or four-furrow ploughs are pulled, up hills with the greatest of ease and over soft sand because of the ample drawbar power available.

Visitors to the Melbourne Royal Show will have an opportunity of inspecting the caterpillar tractor at the stand of Messrs. Wm. Adams & Co., 89 MacGregor-street.

One English cannery is attempting to meet a definite class of trade by putting out a threepenny can of Peas, advertised as a small family size.

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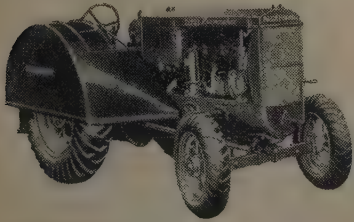
Orchard Implements and Tractors

H. V. McKay Massey Harris Pty. Ltd.

ORCHARDISTS and vigneroni visiting this year's Royal Show will be exceptionally interested in the exhibit of Sunshine and Massey Harris machinery, for it contains a number of entirely new machines and implements built specially for the fruitgrower.

Of outstanding interest is the new Massey Harris Orchard Tractor, a specially designed and economical tractor with power to work any orchard implement. It is low-set and stream-lined, with short wheelbase and with turning brakes for quick turning between vines or trees. The platform is low, and special guards permit the tractor to be used close under branches. Steel or pneumatic tyres can be fitted. This tractor is remarkably light on fuel consumption.

The "Sunmassey" Low Wheel Orchard Cultivator, with spring or rigid tyres, and with pole and swings for



Massey-Harris Orchard Tractor.

two horses, or forecarriage, will be eagerly discussed. This little implement is made in 7, 9, 11 and 13 tyne sizes, and it has a splendid feature in the bow type pressure springs which apply pressure to the two floats. These springs not only force the tyres into hard ground when required, but they allow the floats to follow irregularities in the ground so that the soil is all cultivated.

An entirely new "Sunshine" two-wheel spraying plant will be on view, the outfit being mounted on an underslung vat of 100 gallons capacity. An unmounted spraying plant will also be exhibited. Another new implement is the new Sunreach Disc Cultivator.

Space will not permit of a survey of all the implements for orchard and vineyard use, that will be seen on the stand of H. V. McKay Massey Harris Pty. Ltd. There are ploughs, cultivators and harrows for every conceivable purpose and for every type of soil, and are well worthy of inspection.

Producers' Co-operative Distributing Society Ltd.

Are now paying a Bonus of 10% on all Commissions charged to regular clients of the Fruit & Vegetable Section for year ending Sept., 1935

Send Your Consignments

TO US

MELBOURNE & SYDNEY.

Dried Fruit News and Notes

S.A. DRIED FRUITS BOARD EIGHTH ANNUAL REPORT.

A BRIEF study of the 8th Annual Report of the Dried Fruits Board of South Australia shows that there was a decreased production in most varieties last year as compared with former years. For the second successive year, weather conditions were unfavorable in the Murray Valley during January, 1936, which seriously affected the Currant crop and reduced production by 42 per cent. from the previous year's pack.

Sultanas, though not so seriously affected, still showed a reduction of 22 per cent., and rain damage was reflected in mould conditions, necessitating extra cost in hand-picking.

Production.

The total pack of dried vine fruits for the season is shown below, with comparative figures for the three preceding seasons:—

Vine Fruits:	1933.	1934.	1935.	1936.
Currants (tons)	6,617	8,415	9,248	5,701
Sultanas	10,814	10,040	11,024	8,615
Lexias	2,645	2,859	1,639	1,879
Totals	20,076	21,314	22,911	16,195

Dried Tree Fruits.

South Australia's contribution to the total production of dried tree fruits in the Commonwealth during 1936 was:—Prunes 541 tons, Peaches 233 tons, Apricots 1,088 tons, Nectarines 41 tons, and Pears 220 tons. Total: 2,123 tons.

A fair drying season was experienced after January rains had ceased but the dehydrating plants were not so fully employed as in the previous year. Fumigation and sterilisation of buildings, sweat boxes and other equipment is now an accepted procedure of growers and processors.

The Board, however, stresses the necessity for even greater co-operation between grower and packers, careful handling of all fruits and a systematic observance of cultural practices.

Cultural Practices.

The report states that the programme to improve quality of Currants from non-irrigated areas was continued and the experimental plots in the Clare, Barossa and McLaren Vale areas were closely observed by Mr. A. G. Strickland and his staff of the Department of Agriculture.

The Board also co-operated with the S.A. Prune Growers' Association in arranging conferences and demonstrations during the year under report. The work designed to improve Prune quality and size is being continued.

Publicity.

The Board had co-operated with the Joint Publicity Committee in organised advertising and publicity of an educational nature in schools as well as arranging for window displays and other advertising mediums in many ways.

The report closed with a financial statement showing a deficit of £1,068/19/1 for the year.

Why Not Prune Beer?

A report comes from California that Prune beer made from below-standard fruit is now being manufactured. One factory is turning out two hundred barrels per day. The report does not say whether the beer contains a "kick" or not, or whether people favor this new beverage, but everybody knows that Americans will try anything once, therefore it is likely that Prune beer will find many advocates.

DRIED FRUIT NOTES.

Nine thousand tons of Raisins and Sultanas were received by Great Britain in May, less than in May, 1936, but twice as large a quantity as in April. The increase was due to heavier imports from Australia, which offset a decline in shipments from U.S.A. Empire countries supplied 88 per cent. of total May receipts. For the five months up to May, 19,660 tons had been received, 12 per cent. less than the same period in 1936.

Greece anticipates a crop of about 127,000 tons Currants, slightly below the average crop. Carry-over stocks are expected to be cleared before the new season's fruit is ready for shipment. Italy and Germany took large quantities of surplus stocks for conversion into power alcohol.

Owing to war conditions, Spain's export of Raisins from Valencia up to June 23, amounted to 5,841 tons, as against 9,303 in the same period last year.

The production of Raisins in California in 1936 was valued at £2,497,800 on the farms.

The world's commercial Prune crop in 1936 amounted to approximately 236,000 tons, compared with 331,000 tons in 1935, and with the five-year 1929-34 average of 240,000 tons annually. This is about 29 per cent. below the record crop in 1935, but only about 2 per cent. below the five-year average.

The average price for Australian Lexias, reported on August 21, was £49/12/10. Rising prices are attributed to decreased supplies from Spain.

SALES IN GREAT BRITAIN.

THE Commonwealth Dried Fruits Export Control Board is in receipt of advice from its London Agency, that during the week ending August 26, 485 tons of Australian dried fruits were sold in Great Britain. The principal sales were 281 tons of Sultanas averaging £45/5/9 per ton, and 196 tons of Currants at an average of £31/7/2 per ton. The market is steady.

It is estimated that there is now less than 6,000 tons to be exported after leaving sufficient for Australian consumption. Shipments up to August 19 included 28,829 tons to Great Britain, 15,836 tons to Canada, 3,805 tons to N.Z., and 481 tons to smaller markets. Of this quantity 48,951 tons, 34,504 tons represented Sultanas, 11,857 tons Currants, and 2,596 tons Lexias. Sales to Canada and New Zealand have now exceeded those of any previous year.

GERMANY'S 100,000 TONS DRIED FRUITS.

The total imports, from all sources, of dried fruits into Germany rose by 2,000 tons during 1936. Of the importations, Raisins came first with 61,040 tons, followed by Prunes 23,322 tons, Currants 11,506 tons, and other dried tree fruits bringing the total imports up to 101,235 tons. Mediterranean countries supplied the bulk of the vine fruits, but U.S.A. provided 6,554 tons of the dried tree fruits imported.

S. Africa: In April, South Africa experimented with a trial shipment of 10,000 ten-pound boxes of Grapes to U.S.A. At report there was no notice given of the success of the experiment.

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The South Australian Fruit Marketing Association

Report of Executive Committee Meeting.

THE monthly meeting was held on Friday, August 27, 1937, when there were present Messrs. J. S. Hammat, H. N. Wicks, A. G. Strickland, D. Norsworthy, H. J. Bishop, R. O. Knappstein, F. B. James, S. M. James, A. R. Willmore, R. G. Hannaford, M. G. Basey, J. B. Randell, P. R. B. Searcy, and the Secretary.

The President, Mr. H. J. Bishop, occupied the chair.

Minutes of the July meeting, which had been circulated, were approved.

Correspondence.

Letter from Mr. A. A. Pryce in reference to demonstration box showing application of "slat buttons" applied to a Standard Canadian Apple case with a three-piece side. It was agreed to write the Secretary of the Australian Apple and Pear Export Council and ask that arrangements should be made to enable Mr. Pryce to demonstrate his invention at the Apple and Pear Council conference in October.

Letters from Department of Agriculture re fruit prices, and enclosing copy of regulations under Fruit and Vegetable Grading Act, 1934.

Letter from Batlow Packing House Cool Stores Rural Co-op. Soc., expressing appreciation of the action of this Association in allowing their contribution towards the cost of the "Port Brisbane" case to remain in the fund.

Letters from Australian Apple and Pear Export Council enclosing

minutes of Empire Fruit Council meeting, re trade with India and Ceylon and re wool wool, re trade with France and Czechoslovakia, re Empire preferences in favor of Australian Apples, re trade with Canada, forwarding copy of Exports (Fresh Fruits) Regulations (Statutory Rules 1937, No. 65). Also a letter re Federal Grant advising deputation had been arranged to the Prime Minister re Federal Grant for Wednesday, September 1, at Canberra, and asking if the Association would be represented personally or by proxy. After discussion it was agreed to ask Mr. G. W. Brown to act as proxy for the Association.

Apple and Pear Publicity Campaign.

The President reported what had been done by the Advertising Subcommittee up to date, and advice had been received from the Apple and Pear Export Council that the expenditure of £60 for Tramway advertising had been approved and that the £65 for distribution of Apples, etc., to schools would probably be approved.

The Apple and Pear Export Council ask that the Association's contribution for £150 should be forwarded as the amount has to be paid into the central fund to obtain the Federal Government subsidy. It was resolved that the £150 be sent on.

Apple and Pear Council Conference.

It was resolved that the following matters should be put on the agenda for the forthcoming Conference:—

1. That the Apple and Pear Council request Commonwealth Government to seek permission from the French Government to allow importation into France of Australian Apples in plain wrappers, due to

the difficulties in obtaining supplies of wrappers this year.

2. That an effort should be made to formulate a scheme of insurance or indemnity for hail damage, in view of the fact that the insurance companies are refusing this class of risk.
3. That it be recommended that case lids should be cut $\frac{1}{4}$ in. longer than at present to provide more satisfactorily for the bulge.
4. That the Conference consider the damage caused last season by bruising of Pears and what is the most satisfactory type of package.

Research Sub-Committee.

Mr. H. N. Wicks reported that the Research Sub-committee had considered the matter of hail insurance, and replies had been received through Mr. Boardman from the other States, and also from several local insurance companies, and apparently it would be impossible to insure against hail for the coming season. The Committee had recommended that this matter be considered at the Australian Apple and Pear Council Conference in October.

Mr. Basey had drawn attention to an article in the "Fruit World" re the use of borax, and he pointed out that there might be some danger in using borax in South Australia. Mr. Strickland had kindly consented to write the "Fruit World" and ask them to issue a warning as far as South Australian growers were concerned.

Preliminary Forecast.

The preliminary forecast for next season's export crop was as under:—

Pears.—February, 20,000 United Kingdom. March, 20,000 United Kingdom.

Apples.—February, 40,000 United Kingdom. March, 250,000 United Kingdom, 150,000 Continent.

It was suggested that consideration should be given to Southampton as a port for early Pears.

Selling Containers With Fruit.

Mr. J. B. Randell stated that he had been asked by the S.A. Fruitgrowers and Market Gardeners' Association to bring up at this meeting the matter of selling the containers with the fruit in future. The matter had been discussed by the Market Gardeners' Association, but no decision had been reached. Members of this Association generally approved of the suggestion that cases should be sold with the fruit in future.

AUSTRALIAN APPLE AND PEAR EXPORT COUNCIL.

Annual Meeting, Sydney, October 25.

The Annual Conference of the Australian Apple and Pear Council will be held at Sydney in the week commencing October 25. Mr. J. B. Mills will preside.

It is expected that portion of the opening day will be devoted to a discussion on trade with the East.

The agenda paper, which is a lengthy one, contains items of the greatest interest to the industry, both regarding export and local marketing. There will be a full report on the Apple and Pear Publicity Campaign.

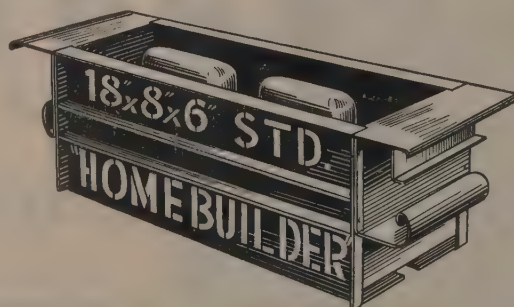
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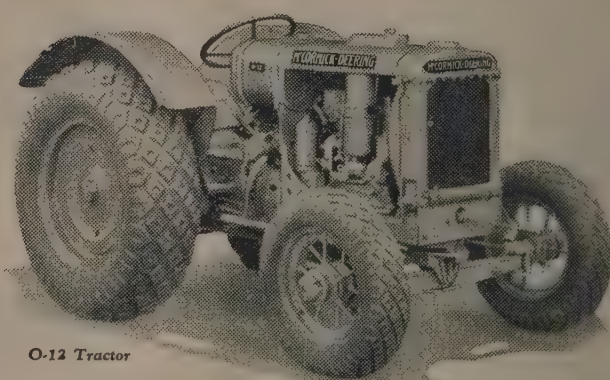
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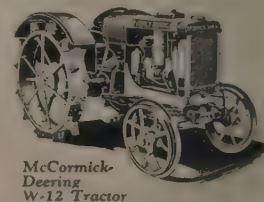
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Tasmanian News and Notes

Weather Conditions :: Buds Show Good Promise :: Spraying for Pest Control :: Re-working :: Progress of Packing Classes :: Apricots and Peaches :: Orchard Heating.

A SUMMARY of information received by the Chief Horticulturist from the District Orchard Inspectors, together with other matters relevant to the culture of fruit follows.

Weather.

Though meteorological conditions during the past month were less severe than in June, it was only during the last week or so that the weather became really spring-like. Several falls of hail and snow occurred, but reference to the rainfall figures will show that records are still below average in some districts.

Hobart: 109 points as compared with the average, 214; Franklin, 351 points as compared with the average, 295; Launceston, 233 points as compared with the average, 206.

The average mean temperature throughout the State for the past month was slightly above normal.

Seasonal Work.

In spite of the heavy crop produced in most areas last season, a very good promise of well-developed buds is in evidence at the present time. Cultural work in Southern orchards is still in progress, but the Winter ploughing has been completed in Northern areas. The controversial question as to whether pruning should take precedence to ploughing or vice versa, seems to be still exercising the minds of some growers. Naturally it is preferable from the pruners' point of view to complete the pruning first; weather conditions, however, frequently govern the course taken and operations are complicated by the prolonged period over which pruning may extend. It seems scarcely necessary to stress the importance of ploughing towards the trees in Winter so that drainage may be facilitated and the young surface roots protected from the weather, yet it has been noted that a number of growers are still ploughing away from the trees at the present time without any apparent justification.

Now is the time to clean up all stumps, dead branches and other possible sources of "dieback" infection. Prunings should also be collected and burnt before the end of the month. The glycerine-mercuric preparation recommended for wound disinfecting and the treatment of diseased areas last season, is again brought to the notice of growers. Good results were obtained by this in recent experiments. The formula may be obtained on application to the Department of Agriculture, but it is advisable to place the preparation in the hands of a qualified chemist.

Spraying and Pest Control.

A considerable number of additional stationary spray plants have been installed during the past few weeks, and it is evident that the claims of this system in regard to speed and economy have been fully justified.

Particularly is this so in consolidated areas of eight acres or more and where soil and situation render the portable apparatus unwieldy, cumbersome and largely ineffective. Practice has shown that closer pipelines and taps which will enable an 80 foot hose to be used are preferable to those which involve 120 foot hose lengths. The initial cost of piping may seem unjustifiable, but will be more than compensated for by easier work and reduced hose replacements.

All spraying plants, both stationary and portable, should now be in good working order and ready for the commencement of operations this month. This season's spraying charts are now available and will be forwarded on application to the Department of Agriculture or may be obtained from the District Orchard Inspectors.

Re-working.

It is evident that re-working will again occupy an important position in orchards this Spring. The District Orchard Inspectors have received innumerable requests for scions, Comice, Beurre Bosc and Winter Cole being foremost amongst the Pear varieties and Granny Smith, Delicious, Crofton and the red "Sports"—Lalla, Crimson Cox, Crimson Crofton, and Red Jonathan amongst Apples. Golden Delicious is also in demand and promises to occupy an important position soon. Supplies of Red Jonathan scions are practically exhausted.

Packing Classes.

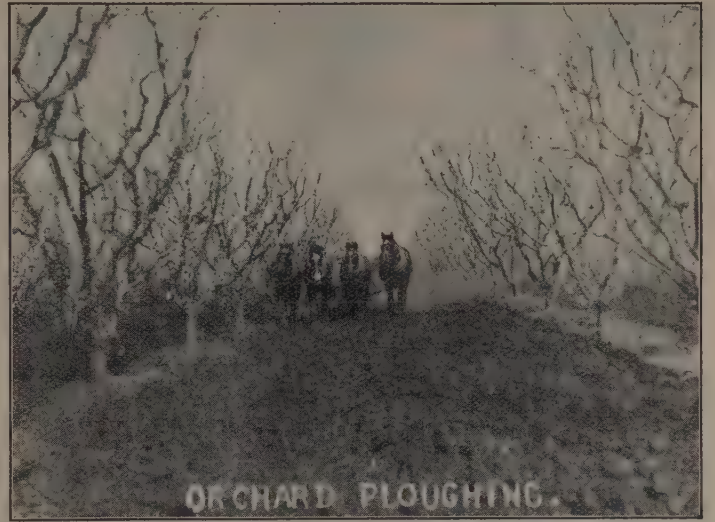
Most of the District Inspectors' time continues to be monopolised with the school Apple-packing classes, and once again very favorable reports regarding the progress of the pupils have been received.

Apricots and Peaches.

The approach of Spring has been heralded in the earlier districts by the Cherry Plums, and Apricot growers have applied the initial Bordeaux for the control of shot-hole. Peach growers should not lose any time in following this example before bud burst, for Bordeaux is the most effective control of "leaf curl," and timely application makes all the difference between profit and loss. Further encouragement towards the care of Peach trees this year should have already been given by the proclamation in the Government Gazette on July 13. This prohibits the importation of all Peaches from Victoria and New South Wales for a period of twelve months. Last month, tar distillate applications were recommended in these notes for the control of green Peach aphid; to those who failed to take this precaution, periodic applications of nicotine sulphate after blossoming is now the only course remaining.

Frost Protection.

Full particulars of the experiments in orchard heating carried out in Tasmania last year are given in the August number of the "Journal of



Agriculture." It is not proposed to enter into further details here, but should any grower be desirous of establishing a system he is requested to call at the Department of Agriculture and discuss this matter in full with officers of the Fruit Division. As it takes some weeks to secure the necessary apparatus—electric alarm thermometers, heaters, etc., no time should be lost in the initial preparations.

Berry Fruits.

The free distribution of berry varieties and other stocks will be completed within the next fortnight,

a total of some fifty orders exhausting all available supplies for the year. To those whose orders arrived too late it is possible that a few may be made available next season if their application is renewed, but the supply of berries will be very limited, since it is proposed to concentrate on other lines.

Neglected Orchards.

There were two more prosecutions made under the Plant Diseases Act during the month, but owners generally responded to the warning circulars sent and many areas have been voluntarily destroyed.

"Crown" Pack for Apples

Tasmania Proves it Effective

FOLLOWING experiments conducted last season by Tasmanian Apple exporters, it is reported that the Crown method of packing was proved very satisfactory. This method was used on about 60 per cent. of the Tasmanian export pack (about 2,000,000 cases) and better prices were obtained, according to a report by the Tasmanian Minister for Agriculture (Mr. Cosgrove) made recently.

When Mr. Thomas, Fruit Expert, returned from Canada and United States, where he had gone to study packing methods, he recommended the crown pack, and stated that

about 9 per cent. more Apples could be packed in this way than by the ordinary pack method. The Canadian case had therefore largely replaced the dump or bulge case in Tasmania.

It is claimed that the fruit settled during transport, the slot-type lids tightened and there was little or no movement of the fruit which could cause bruising or other injury.

Although the dump case is still generally used in Tasmania, the Department of Agriculture is testing the Crown pack and will shortly announce the results of the experiments.

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THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.
ALSO OFFICIAL ORGAN OF THE KOONDOOK & BARHAM TOMATO GROWERS' ASSOCIATION.

Asparagus Growing

Varieties Recommended

Sowing Points

Although Asparagus is much more widely used in Australia than it was some years ago, it is still looked upon by many as a luxury vegetable. Growing has extended, however, and, aided by the increasing output required by the two factors; popularity of the fresh article and absorption by the canneries, the future of Asparagus growing looks correspondingly hopeful.

The prospects for the development of Asparagus growing are dependent upon canners taking increased quantities, in view of the fact that large quantities of canned Asparagus are still being imported, signifying that Australian canners can supply still more of the local requirements, and that growers keep up the quality of the fresh product, says Mr. John Douglass, Special Agricultural Instructor, in the "N.S.W. Agricultural Gazette."

Price Too High.

He goes on to say that when in U.S.A. he saw Asparagus sold at threepence per lb., and it is considered there no more a luxury than is Cauliflower. The chief reasons why Asparagus is not used more extensively in Australia, he argues, are firstly that the retail price is too high, and secondly, that it is not distributed fresh enough for cooking to the best advantage.

Selling in bunches is another disadvantage to its more general use in the average household. In the Sydney market, he states, it is sold in 2 lb. bunches which the retailer splits up into much smaller bunches which makes it an expensive addition to the housewife's preparation of the meal. If she could buy a couple of pounds of loose Asparagus at a reasonable price, a much greater demand for the delicacy would follow.

The Life of a Plantation.

For all commercial purposes, the life of an Asparagus bed is from ten to fifteen years. After this period, the crop becomes patchy, and, in most cases, unprofitable. It is noted that in crops planted in light soils a rapid decline takes place after a period of eight years.

Soil and Climatic Requirements.

Asparagus can be grown in a wide range of soils and climatic conditions. The plants reach perfection in a warm climate when given plenty of water and when grown in soils that are rich, light in nature, 12 inches or more in depth, contain abundance of organic matter, and possess good water holding capacity, at the same time being well drained.

Sandy soils which are well supplied with organic matter, and which may be irrigated are almost ideal for Asparagus growing. The sandy soils are warm, and hence produce early crops, and being light in texture, they allow the natural growth of a straight spear. Heavy soils, on the other hand, cause many of the spears to grow crooked and distorted, with consequent difficulty in cutting.

It is important to select a site where the soil will not become wind blown or water washed. In U.S.A. the majority of the Asparagus is grown in reclaimed peat swamps, a type of soil which is almost ideal for the purpose.

Varieties and Seed Selection.

The chief varieties under cultivation in Australia are Lady Washington, Palmetta, and Connover's Colossal.

In this country practically no seed selection work has been done with this crop, with the result that the varieties have cross-pollinated, many plants have "broken away," and the seed has become somewhat mixed.

In countries where Asparagus-growing is extensive, commercial growers and plant breeders take a detailed record of the production of individual plants over a period of three or four cutting seasons, the number and weight of spears being listed. These Asparagus workers then select six female plants to each male plant for seed production, keeping the seed from these plants separate by allowing the selected plants to run to top growth instead of harvesting the spears. Seeds are then sown and the progeny tested. There is a definite connection between top growth and production.

Type of Spear Desired.

The ideal spear is even in shape and color, not over large, with a tight, rounded head. Lifting scales usually collect particles of soil, making such spears unsuitable for canning. Plants containing large numbers of stringy (small) spears are undesirable, but on the other hand, plants that produce only a few over-large spears are not good yielders, and are therefore not payable. Subject to the plant producing a good number of good quality spears, earliness is a desirable factor.

The Seed.

The seed of Asparagus is borne in the red berries, there being five or six seeds in each; there are three seed cavities in each berry, each cavity usually containing two seeds. Occasionally only one seed is produced in the cavity, which results in a round seed being produced instead of two seeds almost hemispherical in shape. Field results have not brought to light any difference in production from these two types of seed.

Sowing the Seed.

The seed should be sown in a rich, fine, well-prepared seed-bed. Space the rows 24 inches apart and drop the seed as thinly as possible, covering to a depth of at least 1½ inches. When the seed germinates, the seedlings should be thinned out to 6 inches apart. The thinning is necessary in order to allow the plants room for development, also to prevent the roots intertwining. About 4 lb. of seed will sow an acre.

Time of Sowing.

The optimum temperature for the germination of Asparagus seed is 77 to 87 deg. Fahr., and under these conditions a normal germination should be obtained in a few days.

On the coast, August is the month in which to plant, and on the tablelands, September—or when soil and weather conditions are suitable.

It is a good practice to soak the seed in warm water for two days prior to planting.

The first branch to appear above ground is usually very small, and the following branches larger in proportion to the age of the plant.

A NEW STRAWBERRY VARIETY.

The "Cambridge Early."

DURING the English Autumn of 1937, a new seedling Strawberry will be distributed, a new introduction raised at the Horticultural Research Station, Cambridge. There, five years ago, 15 seedlings were selected and submitted to the Experimental Fruit Station, Botley, for testing thoroughly, and "Cambridge Early," as the seedling will be named, has proved the most outstanding and successful, reports "Fruit Grower."

The variety is a vigorous grower, and the period of ripening is similar to Royal Sovereign. In some respects it resembles Sovereign as known to the older growers, when this variety was healthy and substantially built. This seedling is the result of a cross between Royal Sovereign and the American variety, Ekey.

At the Botley Experimental Fruit Station, the seedling has been carefully watched since 1932, without being given any special treatment. It has been planted on the lighter as well as the heavier soils at the Station, and, while it has proved a success on both, there is sufficient evidence to indicate that it prefers the heavier types of soils.

At the Botley Experimental Fruit Station, on plots planted to test the behaviour of varieties under the impeded drainage or waterlogged conditions, Cambridge Early has proved a success. On these plots the majority of the Madame Lefebvre variety have died, while Royal Sovereign has not been by any means a success.

The following is a description of Cambridge Early:—

Plant: Good vigor, bushy habit.

Leaf: Large size. Color in young leaves sulphur green, in old leaves dark green. Surface slightly corrugated. Shape roundish. Young leaves convex, old leaves flat.

Leaflets: Evenly serrated, terminal tip small. Hairs absent on upper surface, and confined to the veins on the underside. Shape slightly convex.

Petiole or Leafstalk: Long. Hairs outright, not plentiful. Channel very slight. Color light green.

Stipules: Long in shape and pointed. Moderate in size. Color tinted pink.

Runners or Stolons. Vigor good. Color red on upper surface and light green below. Hairs numerous, short, pointed upwards.

Inflorescence or Fruit Truss: Much branched habit. Leafy bracts, three at end of solitary stem.

Flower: Size large to medium. Color white. Petals shape round. Calyx lanceolate and irregular. Stamens short and numerous.

Fruit: Conical shape, sometimes bluntly conical. Color bright red, tending to darken with age. Size medium to large. Color of flesh red towards the outside, but white around the centre of the berry. Achenes or seeds slightly embedded. There is practically no plug. The firmness is good, and it should prove a good carrier. Flavor similar to Royal Sovereign.

Potato washing and grading machines used at Shafter, Cal., handle more than 10 tons of Potatoes per hour.



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CELERY FOR HEALTH.

S.A. Growers' Publicity.

The S.A. Fruitgrowers' and Market Gardeners' Association has prepared an attractive folder setting forth the health value of Celery. Some valuable recipes are also given of different forms in which Celery can be used with advantage. They point out that Celery eating is a tonic, a pleasure and a wise physical provision for the body. It is also a remedy for blood disorders and can be prepared as tea or the raw juice can be easily prepared as a medicine.

Naturally, the presence of Celery adds greatly to almost all kinds of salads, whilst its distinctive and pleasant flavor improves soup. Copies of this useful pamphlet may be obtained, gratis, upon application to the S.A. Fruitgrowers' and Market Gardeners' Association, 288a Rundle-street, Adelaide.

COLD STORAGE OF POTATOES.

Retains the Weight.

Cold storage experiments carried out by Mr. W. J. Williams, B.Sc., at the City of Sydney Municipal Cold Stores, are of interest to Potato-growers. In the course of an address at the last annual conference of the Vegetable Growers' Association of New South Wales, Mr. Williams gave particulars of results of recent experiments in keeping Potatoes in cold storage. Results indicated that, when taken out, cold stored Potatoes were 15 per cent. heavier than those placed in ordinary storage. Apparently, said Mr. Williams, the cold storage process allows of the retention of weight. This method of storing Potatoes appears to warrant the attention of growers.

GERMANY'S VEGETABLE CROPS.

309,800 Acres in 1936.

Except in 1935, the acreage under vegetables in Germany in 1936 was the lowest in recent years, being 309,800 acres. The largest area recorded was for Cabbage (100,100 acres), Asparagus (51,900), Strawberries (21,900), Cucumber (21,900), Beans (20,300), and Peas (19,800). At date of the report, Potatoes were only showing 19 per cent. of the estimated production, whereas at date last year, they were recorded as 31 per cent., which suggests a light crop this year.

The report further states that crop prospects then showing were: Cabbage (Autumn planted), average to good.

New Zealand News & Notes

Fruit Growers' Conference :: Export Conference :: The Local Market ::
£40,000 Subsidy :: Citrus Embargo :: Local Fruit Cases :: Crop Report.
(By Our Correspondent.)

THE series of Provincial Conferences reached their climax with the Dominion Conference of both the Fruit Board and the N.Z. Fruitgrowers' Federation Ltd., held in Wellington in the early part of the month. The Conference closed two days before the Springboks-Wellington football match, and we are just a little afraid that owing to football being the general topic of conversation for some days prior to the match the thoughts of Delegates were inclined to wander somewhat. It was very noticeable that a large number of delegates found it possible to stay over for the Saturday to attend the match. Not that there is anything wrong in that—they will certainly have a little more to report to their associations when they return to the districts.

Export Conference.

It is really surprising that four whole days could be taken up in discussing various phases of the fruit business. The Export Conference did not hold the same interest as usual. Discussions were occasionally quite bright, but there was evidence of an apathy and we have been wondering why. It appeals to the writer that the industry is not expecting the export markets to return more than the Government Guarantee, and with a set income there is not the inducement for the industry to collectively thrash out some of the problems which have proved of such great interest in the past.

It was interesting to get the opinion of Delegates from the major exporting areas. There is a distinct tendency to regard export as a reducing factor, despite the statement of the chairman of the Fruit Board, Mr. H. E. Stephens, that export would always be the mainstay of the Apple section. The effect of the competition from South Africa, Argentine and Australian States is making it apparent to quite a few of the keen students of export that New Zealand's salvation will lie in the shipment of only certain varieties and certain sizes, and the result is shown in the great interest taken by the Conference in the question of local markets.

The Local Market.

At one time Nelson regarded local markets as of no importance, and at various Conferences their Delegates stressed the fact that Nelson was an export district. This attitude is changing, and it is obvious that Nelson is realising that export will ultimately become a subsidiary to the local questions. Interest in the local market has probably been fostered by the work of the Internal Marketing Department. The Director, Mr. F. R. Picot, addressed the Conference at length, and while he did not place before the Conference any concrete plans of how this section of the business was to be developed his own personal enthusiasm proved to be rather contagious, and he had a busy time after the Conference is discussing certain points with Delegates.

It must be very encouraging for this new Division to find the members of the industry taking such an intelligent interest in what is being attempted. It can be taken for granted that the Internal Marketing Division will come in for its fair share of criticism once they commence their plan of campaign. It is impossible for any organisation to slip into a complicated business such as fruit marketing without treading on a few corns. The ills of the industry could soon be cured if there were any Government strong enough to appoint a Dictator with sufficient powers, but

this cannot be done in a democratic country, and it is just as well that this is so.

Nevertheless, sooner or later the old economic law of the survival of the fittest must be allowed to operate in the fruit business if only to eliminate the non-economic units of poor orchardists or poor orchards. If the £40,000 subsidy which has been granted by the New Zealand Government this year in connection with local markets could be utilised to eliminate some of the orchards and at the same time rehabilitate the orchardists concerned, it would probably be the most effective way to secure some permanent improvement.

Citrus Embargo.

It was to be anticipated that a certain amount of criticism would result from the lifting of the embargo on New South Wales Oranges. Fruitgrowers, like most primary producers, are inclined to adopt a dog in the manger attitude on decisions which some of them imagine affect their own pockets. It was, however, refreshing to hear one of the Nelson delegates, Mr. A. Forsyth, making the statement that it was not for the fruit industry to dictate to the public what they should eat, but that the energies of the New Zealand fruitgrowers should be devoted to encouraging the public to consume the fruits which were grown in the country.

Fruitgrowers should know enough about marketing to realise that you cannot force the public to do what they do not want to do, but you can encourage them to do what you would like them to do.

There is plenty of room in New Zealand for both citrus and deciduous if the industry will evolve some plan to capitalise on the present tendency for an increase in fruit consumption. The Government is not likely to take very much notice of the protest made by a certain section of the fruit industry regarding Australian Oranges, and little has been gained by the objection that has been made.

Supplies.

The increasing cost of cases is a very serious matter to both Australia and New Zealand. Fortunately for New Zealand the local mills have relied on New Zealand timber for the making of boxes, and although costs have risen fairly considerably, supplies are still available, but from what we can learn, Hemlock on the Pacific Coast is almost impossible to secure, and the result is most serious for a number of Australian mills which rely on supplies of Hemlock.

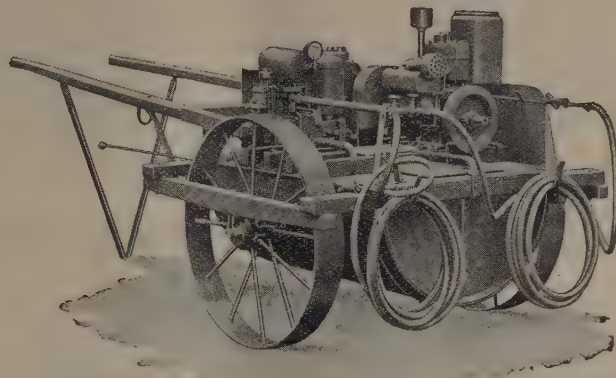
It is unlikely that there will be any imported cases come into New Zealand for the coming year, the price of the imported case is only just competitive with the local box. The heavy demand on freight tonnage is blamed for most of the trouble. This shortage may have the same effect as the shortage of any raw material, i.e., an investigation into the finding of a substitute. It should be possible to find a substitute for the fruit box, and there is certainly big money for anyone that can find a cheaper article.

Crop Report.

There is a quiet air of confidence among growers that the 1938 crops are going to be good. Even in districts which carried a heavy crop last year, reports go to show that the prospects are very much better than we anticipated earlier. The next thing is to search for markets. Early cookers should be alright for 1938, as the English crop is reported to be comparatively poor, and this must affect the Bramley carry-over.

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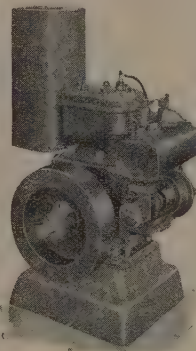
There's a Size and Type of Plant for Every Orchard



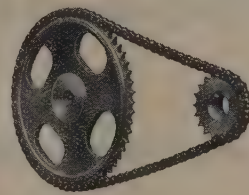
Mudguard removed on near side to show more clearly features of construction.

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RONALDSON - TIPPETT

Motor Cars, Trucks, Tractors

Don't Overwork the Brakes

What's the Hurry?

How often, especially in the city, does one see drivers approaching the stop light at an unreasonably fast speed, even though they can see the red light long before they reach the corner. They tear up to a stopping place and jam on the brakes when they could, just as easily, have glided up with plenty of control to carry on when the lights turn. Apart from the foolishness of this unnecessary haste, they are wearing out their brakes.

Of all the parts of the average car receiving the greatest abuse, brakes occupy a prominent position, for they are regarded by most drivers as the only means for retarding car speeds, and are used to counter the action of the accelerator.

Driving on the accelerator and brakes is a severe form of car ill-treatment, and naturally sets up excessive wear on the brake mechanism.

The most important point to which the motorist's attention should be directed is the risks attending the use of the car when the brakes have reached the limit of their adjustment, for during the course of a long run it will be possible to take up the rods so as to give the necessary degree of safety at high speed, or while descending long hills. In this circumstance also there is the danger of the shoe-actuating cams being pulled over their dead centres, in which case the shoes become inoperative and the braking effect is therefore nil.

Excessive wear on the brake drums is often explained by neglect in not having the shoes re-lined at

the proper time, thus allowing the lining rivets to come into contact with the drums and wear deep grooves on the braking surface. The grooves considerably reduce the effective area of the braking surface when new linings are fitted, and can only be removed at the expense of reducing the life of the drums. Wear on the brakes may also result in the formation of ridges on the outer edges of the drums, which often prevents removal of the drums until the brake-actuating rods are removed entirely to allow the cams to resume a vertical position, thus permitting the shoes to contract to full extent.

SWITCH OFF ALWAYS.

It is a good plan to make a habit of turning the ignition key as soon as the engine stops. Sometimes the engine stops without the ignition being switched off. If not intending to immediately re-start, it is very important to see that the ignition is switched off as soon as the engine stops, because if the contact breaker points are closed the current will continue to flow and discharge the battery. This will run down the battery in a very short time, with the consequent result that it will be impossible to start the engine again until the battery has been removed and re-charged. A short-circuit to a battery is also very detrimental, as it causes buckling of the plates, and considerably shortens its useful life.

SHORT MOTOR NOTES.

If you want to remove a rusted nut from a bolt having a round head, it can be easily done by putting the head in a vice between two old files. This will allow the vice to grip securely.

In an annual report of the Manchester (Eng.) police it is stated that in over 90 per cent. of fatal accidents in which pedestrians were killed by cars, the fault was proved to be carelessness of the victims.

When parking a car on a hill, always turn the steering wheel until the front wheel is against the curb—or put the car in first gear after the ignition is switched off—also pull the hand-brake on hard.

It only takes a minute to wipe off the windscreen, yet some drivers are so careless that they travel with dirty windscreens, to their own danger. The rear window, when the hood is up, should also be cleaned.

While a loose fan belt may cause overheating of the engine, a tight belt imposes unnecessary load on the fan bearing and, if not well lubricated, looseness due to wear may result.

To prevent possible damage by backing into the wall of the garage, bolt a piece of timber to the floor to stop the rear wheels at the right distance in the garage.

When putting distilled water into the battery, be sure that it does not overflow or drop on to the top of the battery. It is a good plan to mop up any drops that appear. Distilled water should be served only through a glass or rubber tube.

A serviceable emergency spanner can be made with a fairly long bolt with a good length of thread. By screwing on two spare nuts they can be adjusted to any distance apart and will grip almost any nut.

WHAT KNEE ACTION MEANS.

Knee-action is the name given to the methods of front-wheel suspension developed for General Motors-Holden's cars, which enable each wheel to move up and down independently, and so step over the bumps without disturbing the other wheel, or transmitting jolt or jar to the chassis. Knee-action makes it possible to give a car front springs that are just as soft and comfortable as the rear springs. It transforms every ride into a smooth, luxurious glide.

So revolutionary are the results of knee-action on General Motors-Holden's cars, and so widespread has been the public recognition of these, that other manufacturers have been compelled to seek methods to improve the comfort of their cars. Rear seats have been moved forward, nearer to the centre of the car, where there is less movement. Leg-room has had to be sacrificed. Various changes have been made in the fitting of the springs and the placing of the engine.

But these only reduce the discomfort that is inherent in ordinary rigid front axles and hard, stiff front springs. They cannot correct this disadvantage altogether. Knee-action is expensive to build. Only the huge resources behind General Motors-Holden's cars enable it to be fitted, while still maintaining low prices.

AIR AND PETROL CONSUMPTION.

Do you know that motor cars need more air than men? A motor car engine, at 40 miles per hour, breathes more air than a crowd of 200 people. These interesting facts have been established by the technical engineers of the Atlantic Union Oil Co. Ltd., marketers of Atlantic Ethyl, Atlantic petrol and Atlantic motor oil. These engineers also state: "Few people regard their automobile engines as being small chemical plants, but such, nevertheless, is the case." Many motorists think their car burns petrol rather than petrol mixed with air. Assuming that you get ten miles to the gallon and that you are driving at 50 miles per hour, it means that during the hour over 40,000 gallons of air must race through the engine, vaporise with five gallons of petrol. This should be of interest to all motorists, in that it means that for good car performance petrol must mix properly with air under every kind of climatic condition.

LAMP ADJUSTMENTS.

All modern head lamps are provided with some means of moving the bulb relative to the reflector, so as to bring the bulb filament as near as possible to the focus of the reflector.

It is advisable to focus the head lamps when new bulbs are fitted to ensure that the best road illumination is given.

The best way of focussing is to take the car on to a straight, level road at night, and adjust the position of the bulbs until the best results are obtained. Focussing can also be done at night against a dark wall from a distance of say 30 feet.

SAFETY FIRST.

A candidate for the police force was being examined.

"If you were by yourself in a police car and were pursued by desperate criminals in another car doing fifty miles an hour along a lonely road what would you do?"

The candidate looked puzzled for a minute. Then he replied, "Sixty."

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VICTORIAN NEWS AND NOTES

Victorian Crop Report Southern Fruitgrowers' Association

IN a report on horticultural conditions during August, the Director of Agriculture, Mr. H. A. Mullett, states that reports from every district indicate that there has been an excellent budding of all fruits, so that, at present, prospects for a good crop in the coming season are bright.

Plantings have been fairly general throughout the State, nearly 20,000 Peach, Pear and Apricot trees having been planted in the Goulburn Valley, while Almond planting has been extended, especially at Tresco and Mildura. Prospects for stone fruits are good; at Diamond Creek, Panton Hill and the Goulburn Valley, Peach trees are showing ample blossom, and very little bud dropping is occurring. Cherry orchards in the north-east and at Doncaster are blossoming very heavily and Apricots at Swan Hill and Geelong are promising well. In the Shepparton areas there are indications of a full crop of Apricots and Peaches. In Doncaster Apricots, Peaches and Plums are producing a wealth of blossom.

Apples and Pears, too, are generally promising a good crop. Shepparton reports a full crop of Pears, and in the Mornington Peninsula, buds of Pears and Apples look well all round and the indications are for a normal crop. Similar reports have been received from Harcourt, where buds are both plentiful and healthy.

Frosts in Gippsland have considerably reduced the present crop of Passionfruit there.

Small consignments of Washington Navels are being sent out from Wangaratta where groves are carrying only a medium to light crop of this variety. An excellent crop of Valencias is showing.

Large quantities of Navels are being marketed from Lake Kangaroo Estates, but Mandarins and Grapefruit have been damaged by frosts. Lemons are much in demand at present.

Very few Navels are now left in Mildura, but there will be a fair supply of Mediterranean Sweets and Commons later on.

Following on a particularly dry Winter, excellent rains fell in all vineyard areas this month. Pruning in many places has been delayed considerably, possibly with the hope of minimising damage due to early Spring frosts. For the same reason growers are hurrying to complete their Spring ploughing or breaking down their cover crops.

Black spot disease of vines was not particularly serious last season, and many growers are now applying heavy Bordeaux sprays as the buds begin to swell in lieu of the Winter acid-iron swab.

Some new planting has occurred, and as much as £9 per thousand has been paid for non-resistant rootlings.

The vine buds are visibly swelling in the irrigated areas, and there is every indication of a good bud burst.

Report of Executive Meeting Held July 30, 1937.

Present: Messrs. W. A. Thiele (President), L. Webb, F. G. Beet, G. Miller, T. Harrington, E. Noonan, L. Pepperell, and Secretary. The President extended a welcome to Mr. Harrington, a new member of the executive. Included in the business were the following:—

Correspondence: From the V.F.M.A. stating, in connection with the early closing of fruit shops on Saturday afternoon, that the same became law under the Shop and Factories Act. Under the circumstances it was decided to take no further action for the present. It was resolved that the cool stores be written to for their support to deal further with the matter.

Selling Large Fruit by Count: Mr. Noonan reported that a deputation had been made to the Minister, The Hon. E. J. Hogan, who, after hearing the views put forward by the various speakers, had been unsympathetic to the change.

It was resolved that the Housewives' Association be approached with a view to receiving their support, and that the advantages to be gained by buying large fruit by count instead of by weight be set out.

A letter was received from the Geelong F.G.A., asking for help to increase the sales of fruit locally grown by the proposed advertising schemes.

It was resolved that the letter be forwarded to the Apple and Pear Export Council, together with one received from Mr. Cowey, The Patch, dealing with the same matter.

With regard to the distribution of fruit to State Schools and Kindergartens, several letters of appreciation were received, also letters from the Children's Hospital and several Creche Societies.

A circular was received from the Department of Commerce, dealing with the embargo on Lemons and restrictions imposed, and stating that the lifting of the embargo on Australian Lemons will not be overlooked when the opportunity for discussion with the New Zealand authorities occurs.

From Mr. J. M. Ward, Superintendent of Horticulture, stating that the Council for Scientific Industrial Research had the matter of dealing with the control of the Oriental Peach Moth well in hand.

General Business: Strong exception was taken to publications in the press concerning the amount of fruit held in cool stores, particularly when the publication of such statistics was accompanied by comments on same. It was considered that the interests of the industry would be best served by making available these figures to growers only.

A resolution carried at the Annual Conference was discussed, dealing with approaching the M.B. of Works

District Officers Wanted

DIRECTOR RECOGNISES NEED.

Appreciating the success reported from New Zealand from the use of district agricultural officers, Mr. H. A. Mullett, Victorian Director of Agriculture, recently expressed agreement that the introduction of the system in Victoria would be beneficial to the State. This policy, however, would need to be adopted as a long range one and the training of a number of properly qualified officers would need to be arranged.

New South Wales is already moving in this direction and staffs will be increased as early as suitable men can be found or trained.

The trade welcomes this announcement by the Director. However enthusiastic the present staff of officers may be, they are limited by time and distance to meet all requirements and district agricultural officers assigned to selected agricultural centres would be of great value to the agricultural industry and a forward move in the Department's service.

seeking a reduction to 6d. per 1,000 gals. for excess water. It was resolved that the Southern Fruitgrowers' Association combine with the vegetable growers and other kindred societies in any deputation arranged.

Research Work at Doncaster: It was resolved that £50 be passed out of the fund set apart for carrying out that work during the past year; arrangements were being made to extend the work to include Apples.

It was resolved that a Field Day be held at Mr. Beet's orchard, Vermont, on September 16.

HARCOURT YOUNG ORCHARDISTS' CLUB.

Secretary Sends Report.

THE season is ideal for pruning as the rainfall is the lowest since 1914, but the position of the Coliban storage is being viewed with anxiety. The district being an irrigation area, the failure of water supplies would result in a drastic reduction in production. Pears show a heavy budding. Apples fair to good, except Dunns, which will be light.

Severe frosts and lack of rain have resulted in poor cover crops.

The growers who practised orchard hygiene last season had crops free from codlin infestation. Many areas of unprofitable varieties have been rooted out and will be replanted with modern ones.

The club has a membership of 35, and has done an immense amount of good in arousing amongst the younger growers, an interest in their problems.

At our last meeting, Mr. S. L. Provan attended and outlined the work done in the experimental blocks.

If Government assistance is not forthcoming during the future sea-

Victorian Fruit Marketing Association

THE MONTHLY MEETING of the executive of the V.F.M.A. was held at the Commercial Travellers' Club, Melbourne, on August 27. There were present Messrs. G. W. Brown (President), W. H. Carne (Vice-President), S. Brown, C. H. Jost, F. Moore, J. J. Tully, E. Russell, G. Douglas, H. M. McLean, K. V. Eagle, A. Perry, F. Cave, R. A. W. Bailey, E. N. Robinson (Commonwealth Coordinating Officer), and R. E. Boardman, Secretary.

Cool Stores Enquiry.

The Chairman and Mr. E. Russell reported that the Cool Storage Investigation Committee had recommended that the burnt portion of the Government Cool Stores at Victoria Dock be not rebuilt, as sufficient cool storage space was available to accommodate export fruit. Further, additional cool stores suitable for export fruit were being built in convenient places and insulated motor vans would be available to convey Pears and Apples for export to ship's side.

The fruit industry delegates had submitted a further report to the Government recommending that a special committee be set up and given official standing so that its recommendations should be binding on all concerned, not only in regard to

rates for storage but also transport, temperature and matters of general interest to the trade.

It was decided to write to the Government supporting the request of the fruit industry delegates.

Pure Fruit Drinks.

In answer to a question from the Prime Minister's Department, it was decided to reply that remission of Sales Tax was desired on pure drinks made from crushed fruits.

Sale of Fruit by Count.

Letter received from the Country Women's Association supporting the action of the V.F.M.A. in seeking the compulsory retailing of Apples, Pears, Peaches and large fruit by count instead of by weight.

Cool Storage Statistics.

Decided to request the press when publishing official statistics of fruit held in cool store to refrain from making any comment in this connection.

Other matters dealt with include Apple and Pear Publicity Campaign, Apples for Czechoslovakia, Trade with India, Ceylon, Canada and France, British Preference in Favor of Empire Fruits.

Mr. W. P. Hutchinson was appointed delegate from the Association to the Employers' Federation.

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SPECIAL NOTICE TO FRUITGROWERS

All Members
under
Fidelity Bond

In response to numerous requests from growers for information as to who are members of the
Wholesale Fruit Merchants' Association of Victoria
the following list is given. All are members of the above Association, and are registered
firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESES.

T. STOTT & SONS (26).
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W. S. TONG (31).
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J. G. MUMFORD (35).
GOLDEN VALLEY FRUIT CO. PTY. LTD.
(15).
J. W. ROSS (13).
H. M. WADE & CO. (21).
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WATKINS FRUIT COMPANY PTY. LTD (5)
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Correspondence is invited by the Association.

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Codes—A.B.C. 5th Edition and Bentley's

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We do not purchase.

Our Sale Rooms are the largest and most up-to-date in England;
consignments are therefore displayed to the best advantage, consequently,
our returns are the best.

We have specialised in the Sale of Australian Apples and Pears by
expert salesmen for many years past, and we have the largest and best
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Bigger and better business is our objective.

We make advances to cover cost of freight, etc.

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Chief Agent in Aust.—Major H. Dakin, V.D., Goldsbrough House, Macquarie Place, Sydney, N.S.W.

Victorian Representative
Southern Tasmanian Representative
Northern Tasmanian Representative
West Australian Representative . . .

Edmond Russell Pty. Ltd., 395 Collins St., Melbourne.
W. H. Ikin & Son, Dunn Street, Hobart.
Bell & Gerrard, No. 200 Cimitiere St., Launceston.
The Westralian Farmers Ltd., Perth.

son, the club has guaranteed to carry on the experimental blocks under the supervision of the Department and the local orchard inspector.

[A report of a discussion on "The rehabilitation of the fruit industry" took place at a recent club meeting. This will appear in our next issue.—Ed.]

APPLE-PACKING COMPETITION.

Exhibits at the Melbourne Royal Show.

Again the Royal Agricultural Society is co-operating with the Department of Agriculture in providing an Apple-packing competition for State School children.

One case of Apples will have been graded, wrapped and packed in the presence of an officer of the Department. The exhibits from each school will be judged as a whole, and a shield awarded accordingly. The points possible include: Height of fruit at ends of the case 20, bulge 20, general appearance, compactness and alignment 20, wrapping 20, sizing and grading 20—100 pts. Special prizes are also offered for the pupils who pack the three best exhibits.

In addition, the Gerrard Wire-Tying Machine Co. offer a half-guinea prize for Young Farmers' Clubs which are affiliated with the Victorian Association, but are not coached by a Government packing instructor. Also further prizes of £3, £2 and £1 to the individuals exhibiting the three best exhibits.

Visitors to the Melbourne Royal Show should make a point of viewing these exhibits.

RECIPE BOOKS AVAILABLE.

Dozens of New Dishes.

Realising that people living in country centres have not the same opportunities of attending cookery lectures and demonstrations as those residing in the capital cities, the Apple and Pear Council has issued a valuable recipe book containing dozens of recipes showing new ways of using these fruits.

In addition to notes for the beginner in cookery, the booklet gives a large number of recipes for Apples with meat (the point being made that Apple sauce should be used with all meats and not simply with pork), ways of baking Apples, Apple sandwiches, Apple puddings, pies and tarts, Apple cakes and Apple preserves.

Other pamphlets include "Facts About Apples" that every housewife should know, and "A Booklet for Mothers" that impresses the value of Apples in children's diet.

Obviously, the object is to increase the consumption of Apples and Pears. Thousands of such booklets were distributed, gratis, during Health Week and Apple Week, recently staged in all States.

The books can be obtained from the Apple and Pear Council Office, 528 Collins-street, Melbourne, by enclosing an addressed envelope bearing a 2d. stamp. Readers are invited to induce their friends to secure the recipe book and so help in the consumption of more fruit.

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Export & Commercial News

A VISIT TO COVENT GARDEN Fruit From Everywhere

AN interesting extract from the Trade Commissioner's report, dated London, August 5, gives some idea of the pull of the London market for out-of-season fruit from all parts of the world, and the opposition which any exporting country has to face on the world's greatest market.

A walk through the market this week cannot otherwise than impress upon one the fact of how well the English buyer is catered for, and also the entire absence of seasons for many varieties of fruit because supplies from world-wide sources are available nearly all the year round.

This week Hungary, Italy and Czechoslovakia were flooding the market with really excellent Peaches of all the best dessert varieties shipped and packed in trays. The Peaches came from the Continent in refrigerated trucks and took about 3-4 days on the journey, and were wholesaled at 3/6 per tray of 60 Peaches. At these prices it means that the Peaches can be purchased retail (even on street barrows) at 1½d. each, and sometimes less. The quantity available from these Continental sources is huge, and has gone on increasing, making a very formidable competitor to Oranges and Pears that are now in course of marketing, to say nothing of the home-grown hot-house Peach trade.

New Zealand, Australian and U.S.A. Apples were all in evidence, though the Australian and New Zealand season is virtually over. I saw quite a number of Avocado Pears, Mangoes and Papaws that had come from July Juy in Tucuman, situated in the Andes Mountains on the borders of Chile and Argentina, that had incurred the railage expense of about an 800-mile journey before reaching the steamer at Buenos Aires. Limes from Jamaica were in abundance, and extremely cheap. The conservative taste of the Londoner still prefers the Lemon. Incidentally, Lemons from Italy, Spain, Australia and South Africa were available, as well as Grapefruit from the same sources, with the additional selection of similar fruit from California.

Madeira is a very fertile and consistent supplier of fruit and vegetables nearly all the year round, but her peak season is the Winter months, when Tomatoes and Potatoes predominate on her export list. New Potatoes are a leading feature. These are shipped in boxes packed in peat moss. Cantaloupes and various other melon species are now at the height of their season. Holland and Belgium contribute largely to this trade, as well as being very heavy consigners of Grapes and Lettuce.

The Cucumber and Tomato industry has become much more British since the imposition of a protective tariff, and there are some hundreds of acres close to London devoted to production of these products under glass. The varieties of Cucumbers and Tomatoes used on this market have long ago been standardised. In Cucumber, the long thin bright green variety is solely used; the same applies to Tomatoes because there is no demand for any type other than the smooth-skinned "Cherry" variety. The "Apple" variety of Cucumber has never been seen on this market.

Gradually the marketing and classification of English fruit and vegetables is improving and to-day cases are substituted for baskets, particularly as far as Apples are concerned. Many new orchards (mainly of Cox's Orange Pippin variety), have been planted and in some instances cold storage is being used to carry this fruit on to permit of it being marketed during the Christmas season.

Pineapples still command good prices, particularly those imported from St. Michael's Islands. South Africa and Brazil also contribute their quota to this market, but though cheap and of really excellent flavor, they are not as popular as they really should be. The greater proportion of Covent Garden is undergoing a phase of re-building with a very necessary extension of storage and handling facilities. It is of interest to note that many of the stall holders are installing cold storage plants.

VICTORIAN PEARS IN LONDON Report on "Waiwera" Shipment

REPORTING on a shipment of 23,500 cases of Victorian Pears which arrived in London on the s.s. "Waiwera," the Victorian Commercial officer in London states that, although a few marks of Pears opened up in a forward condition, the general outturn of this shipment, in most varieties, was satisfactory. Two firms in Covent Garden Market, however, reported faulty condition in the Keiffer and Beurre Bosc varieties. After a close examination of the defective Pears the Commonwealth Fruit Officer reported that in the case of the Bosc Pears, all stages of the disorder could be traced, from a faint browning in the stony cell region of the core or a more definite browning of the whole or part of the core, to a general browning of the core and surrounding flesh. In the less affected fruit the lesions were relatively dry and light colored. The more affected lesions were moister and darker. The latter stages resembled core breakdown, but the fruit was quite firm. The former condition definitely suggested brown heart as seen in 1936. Some of the fruits also exhibited small cavities in the affected

area as in brown heart. In his opinion, the trouble was brown heart.

In the Keiffer Pears the stages varied from the browning of portions of the core, sometimes involving only one compartment, to the whole core area and to the core area plus a large portion of the flesh. In the advanced stages the condition was similar to core breakdown as it occurs in Packhams, Williams, etc., with the characteristic tendency for the core to become free on pressure. The lesions throughout were definitely moist and dark. The maturity of the Pears varied considerably in the boxes from greenish and hard to full ripe. Those that were full ripe appeared to be more affected in degree, though not necessarily in percentage than the harder and greener. Cavities in the affected areas were rare, but this might be due to the moistness of the lesions.

In the absence of definite knowledge as to the performance of Keiffer Pears in conditions of unsatisfactory ventilation, it was considered that the disorder was brown heart rather than a normal core breakdown.

"NEW ZEALAND STAR" SHIPMENT.

Excellent Condition Reported.

The shipment of 25,000 cases of Pears and 16,000 cases of Apples from Victoria to London in the S.S. "New Zealand Star" arrived in excellent condition, according to a report received by the Director of Agriculture from the Victorian Commercial Officer in London.

The general condition of the Pears, which included the varieties Beurre Bosc, Packham, Winter Nelis, Josephine, Keiffers, Winter Cole and Winter Bartlett, was very satisfactory, and, with only one exception, all of the 45 lines inspected opened in a hard, sound condition. Quality of all varieties was well up to grade, and packing and grading were uniformly good. The Pears realised from 9/- to 14/- a case.

The Apples included Jonathans, Rome Beauty, Yates, Statesman, Rokewood, Delicious, Granny Smith, Tasman's Pride, and Dunns. The Jonathans were reported to show a definite improvement on any previous shipment, and out of 16 marks seen only 1 could be faulted. The other varieties also were in good condition and of good quality. Prices ranged from 5/3 to 12/3 a case, the higher price being realised by the Granny Smiths.

Mr. E. H. T. Bensemann, of Motueka, New Zealand, will be in personal attendance at the Melbourne Royal Show this year to describe and demonstrate the Bensemann (Screw Type) Fruit Grader. This machine will be on view at Stand 229, just behind the Victorian Producers' Co-op. Stand in Skene-street, Showgrounds. Attention is directed to Mr. Bensemann's advertisement in this issue.



A tradesman and a GOOD CITIZEN

EDWARD WILLIAMSON NICHOLS is a carpenter, as was his father before him. A good tradesman and a good citizen; typical of thousands of young men in this country. He and his kind are the salt of the earth. They do the nation's work, live within their means, pay their debts promptly, and provide for the rainy day.

Mr. Nichols took out his first A.M.P. policy (for £200) when he was 18. That called for an investment equal to less than 1/5 a week. (Any young man in work could do that.) Then, when he was 21, and getting a higher wage, he added a £300 policy. To-day he is 24, and he has arranged for another £200 policy to begin on his wedding day next month.

Mr. Nichols' father died last Christmas time and left him the proceeds of an A.M.P. policy that had grown, with bonuses, to £827. That money is being used at this moment in building a house. The young couple will begin life together in comfort and security, and isn't that the way it should be?

Young man, you can do what Mr. Nichols is doing. Don't say you can't; if you are in work you can, and you will get endless satisfaction out of it. Ask us to send an experienced man to talk the matter over with you.

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Any particulars as to fares and times may be had from the Australian office of the Company, 7 Bridge-street, Sydney.

Studying Fruit Methods Abroad.

Many Visitors to U.S.A.

AS demonstrating the importance credited to periodical visits to foreign countries for the study of fruit methods, an American exchange which we read last week reported four foreign visitors in the one issue, two of whom were from New Zealand and two from Japan. Naturally these are not the only visitors who go abroad to study the latest in fruit culture.

Mr. H. G. Lever, of Otumotai, Tauranga, N.Z., attended a meeting in May of the California Fruitgrowers' Exchange, and during his visit made enquiries into the co-operative selling of citrus fruits, also visiting several groves associated with the Exchange.

Another New Zealand visitor was Mr. Lloyd Williams, of the Department of Agriculture, who was making a study of frost prevention methods as well as other orchard practices. Packing and storage plants, laboratories, and experimental stations were included in Mr. Williams' survey. He expressed great appreciation of the manner in which everything was thrown open for his inspection.

Two Japanese scientists were also reported. Dr. Taiji Miki, Professor of Pomology at the Chiba Horticultural College, Tokyo, and Dr. Sadao Yasuda, Professor of Plant Breeding at the Taihoku Imperial University, studied experimental work in horticulture, plant breeding and plant physiology. They are on a world tour for two years to study such subjects in other countries, on behalf of the Government of Japan.



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And if
You Want Genuine Satisfaction and
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N.S.W. Chamber of Fruit and Vegetable Industries

Report of Annual Meeting.

At the Second Annual Meeting of the N.S.W. Chamber of Fruit and Vegetable Industries, the following officers were elected:—President: Mr. L. J. Jenkins; Senior Vice-President: Mr. W. Musgrove; Junior Vice-President, Mr. C. R. Walker; Hon. Treasurer: Mr. W. G. Roughley.

Members of Council: L. J. Jenkins, W. Musgrove, W. G. Roughley, C. R. Walker, F. Chilton, E. Cooke, C. Denning, W. J. Curtis, E. Terrey, C. C. Greentree, A. C. Ward, F. Sawyer, J. J. Mason, J. Reedy and W. P. Watkins.

In submitting his annual report to the meeting, the President (Mr. L. J. Jenkins) said the Chamber had been of much assistance to the industries with which it was connected.

During the past twelve months the Chamber has steadily progressed, and to-day it is gratifying to know that all concerned with the industry, including both Federal and State Governments, Departmental Officers, Fruit and Vegetable Growers' Organisations, etc., now recognise that the Chamber has a definite part in the Industries and co-operate with it in matters affecting them. The Chamber is now favorably known in every State of the Commonwealth as well as in New Zealand. The Vegetable Section must be congratulated on realising the value of unity in their Section and the Fruit Section is earnestly exhorted to follow their example.

It would be impossible to outline the whole of the activities of the Chamber during the past twelve months and the report will be confined to a brief summary of some of the more important questions dealt with.

Development.

The comprehensive design of the Chamber has been constantly kept in view. The ethical, honorable, effective and profitable development of all phases of the industry has been the paramount thought and endeavor.

Bulk loading, although showing definite improvement, has been disadvantageously affected by members' actions, omissions and lack of interest. Although unsuccessful in new spheres we have maintained all bulk loading previously obtained. West Australian contract was again received, giving the whole of the work—while Leeton has been supplemented by packing houses in that area.

By almost continuous contact with those in authority and others peculiarly concerned—per medium of interviews, deputations, conferences, visits to other States, etc. Council has forwarded the interest of all members. Many of your Honorary Officers have been untiring in the work on your behalf.

Consultative Committee.

Two meetings in connection with the formation of this body were held, the second at Adelaide on 26/10/36, when representatives of every State in the Commonwealth were present.

The recent experience in regard to the Apple Publicity Campaign is a de-

finite proof of the necessity of this Committee and of the sound judgment of your Executive in proposing its formation and may be the means of bringing it in to active being in the very near future. Market reports for broadcasting and the press have also been supplied weekly.

City Markets.

The Chamber has been in continuous contact with the City Council, and the Superintendent of Markets in regard to all matters affecting the markets area. In addition to several deputations at the Town Hall, the Lord Mayor personally visited the markets with his officers and met a deputation from the Chamber. All markets were inspected and definite proposals as to alterations that were considered would be of benefit to all members were made by the Chamber. The Lord Mayor promised that before any alterations of stands following the removal of the vegetable growers to the new markets were made, he would allow all bodies interested to make their representations to the City Council. This is a matter that must receive the immediate attention of members, and through the Chamber's initiative the subject of consideration by all concerned at the present period will form the basis of general discussion.

Farm Produce Agents Act.

Many interviews have been held with Mr. J. R. Butler, Registrar of this Act and Delegates from the Fruit and Vegetables Sections attended a Conference convened by the Department of Agriculture and attended by

Delegates from the Fruitgrowers' Federation of New South Wales, Vegetable Growers' Association of New South Wales, and the Director of Marketing and the Registrar. The Conference agreed to recommend to the Government:

1. That no additional licenses be granted to fruit and vegetable agents in Sydney for a period of at least two years.
2. That certain vegetables be sold in standardised packages, for which contents will be sold by weight in unbroken lots when vegetable agents state that they will be able to make a permanent record at time of sale.

At these Conferences your Delegates also defended the integrity and interests of agents in respect to commission rates, etc., while a request was made for—

- (a) An increase in commission to 10 per cent. with the retention of the minimum charge and incidental out of pocket charges.
- (b) Minimum commission rates on vegetables.
- (c) Taking over of the City Markets Area by a Trust or some similar body composed of representatives of the producers, distributors and one Government nominee to represent consumers.

- (d) Licensing Committee or Board.

The question of the markets area being administered by a body as suggested above has received the strong support of the growers, and this matter will be followed up during the coming year.

Limitation of Agents.

More and more is it evident that the limitation of agents is progressively being brought about. The Chamber is constantly vigilant on behalf of its members and one needs their loyal co-operation to be ulti-

mately successful in their interests. With the prestige of Chamber daily improving it is obvious that with members' support, the Chamber's membership will substantially be the source of selection.

Decentralisation as a deleterious factor within the industry, injurious to all concerned, has been fully recognised and efforts have frequently been made to retard this unsatisfactory feature, but without success, and it must be frankly accepted that it is obvious that it will be further developed before development will be halted.

New Zealand Embargo.

This question has received continuous attention right throughout the year. Almost weekly communications have taken place with either the Federal or State Governments, Fruitgrowers' Federation of N.S.W. and the N.S.W. Citrus Defence Association and other bodies, while contact has been regularly made with interested parties in New Zealand.

Last September the Chamber sent Mr. P. S. Macdermott, the General Secretary, to New Zealand to give evidence, together with representatives of the Fruitgrowers' Federation, before the Committee appointed by the New Zealand Government on fruit marketing. While in New Zealand these representatives did valuable work in presenting the case for the entry of N.S.W. fruit.

All Ministers and Departmental Officers were interviewed and excellent propaganda carried out through the press and in other directions. The experience of our General Secretary was invaluable to the deputation and the Fruitgrowers' Federation has acknowledged the assistance received by its representatives from him. The congratulations of the Chamber are due to him for the thorough and practical case submitted by him.



Licensed under Farm Produce Agents Act.

F. CHILTON

ESTABLISHED 1894.

Fruit Commission Agent

SHIPPING NO. 56.

HIGHEST MARKET PRICES — PROMPT RETURNS — RELIABLE ADVICE.

Registered Address for Telegrams and Cables: "CHILTONS."

References:—Bank of N.S.W., Haymarket, Sydney, and Growers throughout Australia.

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Fruit Selling Expert.

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LICENSED FARM PRODUCE AGENT.

MUNICIPAL MARKETS, SYDNEY.

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3 City Fruit Markets, Sydney.

Our Motto—Quick Sales and Prompt Settlements.

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Port Line

... REGULAR SAILINGS ...
of Fast Vessels to the U.K.
and Continent, having well
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for the carriage of Refrigerated
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**Commonwealth and Dominion
Line Ltd.**

1 to 7 Bent St. Sydney, N.S.W.

Regular Consignments of well Packed
and Graded Fruit Realize
Best Prices.

In November last the Chamber wrote to the Prime Minister pointing out the shortage of Oranges in New Zealand owing to the shipping strike in the U.S.A., and requested that the Federal Government write to New Zealand and offer to supply Oranges from N.S.W. while the shortage existed. Copies of this letter were sent to the Fruitgrowers' Federation and the Citrus Defence Association with the suggestion that they also write to the Federal Government and support our request.

As a consequence the embargo was modified by New Zealand to allow of limited quantities being shipped in December, 1936, and January, 1937. Approximately 20,000 cases were exported from N.S.W. and Victoria. The Chamber can justly claim the credit for this partial lifting of the embargo.

This year the Chamber actively and determinedly continued its request to the Federal Government and, aided by the agitation in the New Zealand press which had not ceased since the visit of the N.S.W. representatives last year, the New Zealand Government has agreed to allow the importation of Oranges from "fly-free areas" in N.S.W. from December to April or earlier, if supplies are short in the Dominion. We are strongly pressing for further

modification permitting of export on lines that previously existed.

The Chamber has also made requests at different times to the Federal Government that approaches be made to New Zealand for permission to export Grapes, Lemons and other fruits, but so far without success. This pressure will be continued until success is achieved.

Apple Publicity.

At the invitation of the Australian Apple and Pear Export Council the Chamber sent Delegates to a meeting in Melbourne in April, and previously had joined the Adelaide Conference in October, 1936, and later also at the request of the Export Council supported an appeal to both Federal and State Governments for a grant to conduct a publicity campaign to increase the consumption of Apples. As a result the Federal Government agreed in May to contribute up to £5,000 on a pound for pound basis with State Governments.

Considerable delay took place in finalising the matter, but the publicity campaign commenced in Sydney on 19/7/37. The Chamber since September last has consistently pressed for appropriate action. The Chamber was requested by the Australian Apple and Pear Export Council to

form, with the N.S.W. Apple and Pear Export Association, a N.S.W. Publicity Committee and this was agreed to and the Committee is now functioning with your representatives taking a prominent and active part.

Council and Executive.

I take this opportunity of thanking on your behalf and personally, my fellow Executive and Councillors for their able and enthusiastic support and co-operation. During the year twenty Council meetings were held, while the Executive was in constant service, being always ready to meet at short notice and being consulted by the Secretary almost daily.

Special mention also should be given to the regular and effective functioning of the vegetable and the Tasmanian Sections. Mr. C. C. Green-tree, as chairman of the Vegetable Section, showed great enthusiasm, and displayed rare ability as chairman.

In conclusion, I appeal to you to lend your full support to Council during the coming year, and to have confidence that that body of earnest men are honest and untiring in their efforts on behalf of members individually and collectively, in the interests of the Chamber and of the Fruit and Vegetable Industries in general.

Market News and Notes

Fruit Prices in the Sydney Market.

Survey of Operations from July 25 to August 25, 1937.

(By L. T. Pearce, Market Representative, Fruitgrowers' Federation of N.S.W.)

FINE WEATHER has been experienced during the period under review, with the exception of showers on August 13 and 14, and again on the 21st—the temperature being cold late in July, but comparatively mild during August. One might have expected increased fruit consumption as a result of the temperate conditions experienced, but the improved value of Oranges checked any great enthusiasm for this fruit and the large quantity of Apples, coming chiefly from Tasmania, resulted in a surplus of this fruit usually being seen in the market, and this despite the publicity campaign.

Whatever the reason, both retailers and wholesaler are conscious of disappointing demand for the plentiful supplies of Apples available, and other fruits in their various quantities. Oranges certainly have been at a satisfactory level, despite the over-supply of large to extra large sizes, and it is probable that prices have averaged 6/- to 8/- per bushel, even the usually neglected "Common Orange" being in demand at about 6/-.

Export has continued, chiefly on the China and Singapore routes, but it is expected that competition from American fruits will cause this trade to ease in the near future.

Apples: A comparison of the average weekly arrivals over a number of years shows that the Sydney market has been asked to consume 3,000 to 4,000 cases per week more than since 1932; 31,000 was the average in 1932 and 1934, while in 1936 the figure dropped to 19,000 cases per week. The increase, therefore, of 15,000 to 16,000 cases from Tasmania is proving difficult to move at a satisfactory figure. Victorian supplies, due to the low values on the Sydney market, have been particularly light, but it is expected that by October the large quantities held there will have to be released. N.S.W. arrivals have been very light during the last month, values for both G.S. and Demo. being lower than is customary at this time of the year; while special quality Del. are also a little lower than has been the case in recent years.

Amongst Tas. Apples, the chief difficulty has been with F.C., S.P. and Demo., while, latterly Del., Jon. and Scarlet have been inclined to show over-maturity in many instances.

Amongst the N.S.W. varieties, R.B. are still appearing, this fruit having kept its quality very well, while the last of the shed-stored G.S. are now appearing, some of this fruit showing breakdown. It is believed that, with the Tas. Scarlet Pearmain practically finished, the demand for N.S.W. G.S. should improve. But, if price levels are a little lower than usual, medium-sized fruit will be preferred to large-sized fruit.

The Apple publicity campaign is now at its height, and embodies newspaper advertisements, assistance to retailers in the form of display cards, window stickers and posters, and the distribution of Apples to school children, accompanied by addresses on the dietetic value of Apples. Prices:—Buncombe 5/- to 9/-. Cleo. 4/6 to 7/6. Crofton 5/- to 8/6. P-I. 4/- to 12/-. Dem. 4/- to 6/-. F.C. Green 3/- to 5/6. G.F. 4/6 to 7/-. G.S. 4/- to 9/-. Jon. 5/- to 8/-. few to 10/-. L.P. 4/- to 6/-. R.B. 5/- to 9/- R. B. 4/6 to 7/-. S.P. 4/6 to 7/6. St.P. 3/- to 5/-.

Pears: Slight improvements in values were experienced during the

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FRUIT

MARKETS



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Reliability is Our Motto.

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WELL GRADED AND WELL
PACKED ALWAYS FINDS A
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FRUIT EXCHANGE ——— BRISBANE

SELECTED AGENTS FOR:

Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd.
Harcourt Fruit Supply Co. Ltd.
Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.
New South Wales: Griffith Producers' Co-op. Co. Ltd.
Batlow Packing House Co-op. Soc. Ltd.

month, but the necessity of marketing much fruit that had been kept in cool-store until breakdown appeared, caused the average product to realise a slightly lower price than the highest values quoted. Tas. supplies of Pears eased in supply and Vic. supplies increased, while steady releases have been made from N.S.W. Due to the heavy export of Pears from Vic. most arrivals from that State displayed some skin blemish, which prevented values being quite as high as Extra Fancy fruit would realise. Giblin Seedling and Keiffer have not been popular, but have found their place in the scheme of things, due to the lower price at which they could be re-tailed. There have been some arrivals of W.N. from the southern States in three-quarter bushel cases, due to the absence of shipping for the U.K. for this fruit.

At the present time agents are alert for a possible rise in the value of Packham's as special quality fruit is likely to be scarce. Prices:—B.B. 7/- to 9/-, Gib.S. 6/- to 9/-, Jos. 6/6 to 11/-, Keiffer 6/- to 8/-, Packham 7/- to 14/-, W.C. 7/- to 13/-, W.N. 7/- to 11/-.

Bananas: Arrivals on the Sydney market have approximated about 5,000 tropical cases per week. Values for the period under review were steadily maintained at between 19/- and 26/-, the highest level obtained during the Winter for some years. Present prices are as follows:—N.S.W. and Qld.: Regulation graded, first quality fruit. Six, Seven, Eight and Nine Inch fruit 20/- to 26/- trop. case. Specially selected country order fruit higher.

Citrus Fruits.—Grapefruit: During July and early in August poor request was experienced for coastal Grapefruit of small size, and fruit from inland sources, when thick in the skin, also was in weak request. Small consignments from S.A. were welcome and from 10/- to 12/- was obtained for this product. Prices: N.S.W. Local 4/- to 7/-, few extra special 12/-, Inland 5/- to 8/-, few 10/- to 13/- bush.

Lemons: Improved size occurred in Lemons early in August, and peel buyers operated at 4/6 bush., but there has been no enthusiasm to purchase the average coastal article arriving. Latterly, best quality fruit improved to 8/-, but this was for a few cases from the M.I.A. Prices:—N.S.W.: Special and Standard. Local: Counts 88 to 113 4/- to 4/6, counts 125 to 198 4/- to 5/-, counts 234 to 270 3/- to 4/- bush. Plain grade 2/6 to 4/-; Inland 5/- to 8/- bush.

Oranges.—Navels: Late in July, the preponderance of large sizes in Navels resulted in some sales being made as low as 5/-, counts 138 and 163 being wanted at 9/-. But, as August progressed, the public apparently became more accustomed to paying more than 1/- per dozen and, latterly, choice fruit of count 96 has realised to 9/-; while counts 163 and 175 have been almost non-existent. S.A. Oranges have been available, including the famous "Olive-wood" brand, while a few Vic. appeared latterly. Prices:—N.S.W. 4/- to 8/- bush, few to 10/-. Two-bushel crates 11/- to 15/-. S.A. 8/- to 16/- bush. Vic. 6/- to 8/- bush.

Other Oranges: These were at 4/- to 6/- at the beginning of August, but due to processors purchasing this fruit for juice purposes, values improved and became 5/- to 7/- bush. Many hundreds of cases have been sold since that date at a probable average of 6/-. Val. appeared about the middle of August, most of the fruit being hard, but not quite ready for marketing. Prices:—Val. and other Oranges 5/- to 7/- bush.

Mandarins: Latterly the Emperor has given indications, in most instances, of declining quality. During the season some very choice fruit has appeared and from 9/- to 12/- was obtained for large sizes; but firm, juicy fruit is now scarce, and the drag of small and puffy fruit has caused a general reduction in values. For some weeks agents have been worried at the difficulty in clearing fruit smaller than count 300. Prices: N.S.W. Special and Standard. Local: Emperor, counts 160 to 240 6/- to

8/-, few 10/-, counts 260 to 300 5/- to 6/-, few 7/-, counts 320 to 400 3/- to 4/6 bush.

Pineapples: An average of 2,280 trop. cases has been available on the Sydney market per week. Values have been stabilised at around 7/- to 10/-, latterly improving to 12/- trop. case. Values usually reflected the presence or absence of shipping for N.Z., or the cessation of buyers for the N.Z. market, owing to direct shipment from Brisbane. Prices:—8/- to 12/- trop. case.

were generally satisfactory, and supplies equal to the demand.

Bananas: Supplies shortened and prices were comparatively high. Receipts of sized samples were not large.

Passionfruit: Generally speaking, the quality was poorer than usual, and prices were consequently not high. Fair supply.

Tomatoes: Large supplies from W.A. landed in good condition and sold well. This affected the demand for S.A. offerings, and prices were only medium. Very few glasshouse varieties from Victoria were received.

Peas and Beans: On account of frosts, supplies were light and prices good. The season has been very satisfactory and the demand strong.

Melbourne (1/9/37).—The following prices are quoted by the Wholesale Fruit Merchants' Association—Per Case: Apples, eating, 3/- to 6/-, few higher; cooking, 2/6 to 5/-; choice higher. Bananas, per double case, green, best, 19/- to 25/-. Celery, 8/- to 12/-; choice higher. Grapefruit, 5/- to 10/-, selected higher. Lemons, good quality, 4/- to 8/-, few higher. Oranges, 4/- to 9/-, special higher. Mandarins, 4/- to 11/-, special higher. Passionfruit, 2/6 to 6/- half case, special higher. Pears, 3/- to 6/-, few higher. Pineapples, 8/- to 11/-. Tomatoes, repacked, ripe, W.A., 5/- to 8/- half case, choice higher, inferior lower; S.A., best 9/- to 10/-, few higher.

VICTORIA.

Market Report for August.

WITH fogs and frosts extending from July well into August and Winter conditions continuing, fruit movements in the Victoria wholesale markets were on the slow side. General rains throughout the State during the month heartened general farmers, and the feeling of optimism was reflected in many quarters. Unfortunately, the epidemic of infantile paralysis in Melbourne affected fruit sales. With schools closed, no lunches having to be carried, and children kept at home, the normal purchases of fruit suffered, according to suburban retailers' reports.

Citrus: Generally slow. More waste than usual at this period. Mandarins,

though wastey, sold reasonably well, owing to a light crop following many trees being cut out. Prices were consequently a little better than normal. Lemon supplies were good during the first half, but slacked off in last two weeks.

Apples: Movements about the same as in July. Leading varieties, Delicious and Grannies sold well. The repercussion from Apple Week had not taken effect by the end of August though it was expected to influence sales later.

Pears: Very few on the wholesale market, but prices unchanged.

Pineapples: Sold ordinarily well and cleared satisfactorily. Some complaints were reported of black heart in Queensland supplies, but general condition was good. Prices

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The best recommendation we have to offer comes
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Adelaide.

ENQUIRIES ARE INVITED BY ADVERTISERS ON THIS PAGE FOR FRUIT FOR EXPORT OR SALE ON THE ADELAIDE MARKET

QUEENSLAND.

Brisbane: Messrs. Robsons Pty Ltd. report under date August 13, as follows:—Apples: Jons. 8/- to 9/6, G. S. 9/- to 10/-, Cleos. 9/-, Scarlets and Demos. 7/-, Sturmers 6/-, F.C. sales very slow 4/- to 6/-.

Pears: W.C., popular sizes 14/-, Jos. 13/-, W.N. 12/-, Packhams 8/- to 10/-, B.B. 8/- and 9/-.

Citrus: Common Oranges 9/- to 10/-, Navels 9/- to 12/-, Lemons, choice local, 7/- to 11/-; Glen Mandarins 13/- to 16/-.

Tropical Fruit: Smooth Leaf Pines 7/-, Rough 6/-, Papaws 7/- to 9/-, Custards 4/- to 5/-, Passions, 8/- to 10/-, Strawberries, 7/- to 10/6 per dozen boxes. Bananas, 6's 15/- to 17/6, 7's 17/- to 19/-, 8's 19/- to 20/-.

Brisbane (20/8/37): Messrs. Clark & Jesser report as follows:—During the past month the heavy supply of

Apples has been maintained, while Pears and citrus fruits are in light supply. A large percentage of the Jons. are arriving overripe, and in a very soft condition. This has had a very detrimental effect on the sale of Jons. generally.

The ruling values at present are: Jons., 2½, 2½, 8/- to 9/-, 2½ 6/6 to 7/-, 2½ 5/- to 6/-, soft lines selling 4/- to 5/-; Romes, Yapeens and other colored Apples 7/- to 8/-, Cleos 8/- to 9/-, Sturmers 5/- to 6/-, F.C. 5/- to 5/6, G.S. 8/6 to 9/6, plain grade 5/- to 6/-. Pears: W.C. and Jos. 12/- to 13/-, very large or small fruit 9/- to 11/-, W.N. 10/- to 11/-, B.B. 7/6 to 8/6. Oranges: Navels 7/6 to 8/6, Vals. 8/- to 9/-, Mandarins: Glens 12/- to 14/-, Emperors, large 12/- to 13/-, small 7/- to 8/-. Lemons, 10/- to 12/-. Pineapples, 7/- to 8/- case. Bananas, very scarce, 17/- to 20/- case.

WESTERN AUSTRALIA.

Perth (27/8/37).—Dunn's, dumps, 6/- to 8/6 (special to 9/6); R.B., 7/- to 9/-; Yates 6/- to 11/6 (special to 12/-); G.S., 6/- to 11/6 (special to 12/6); Cleo., 7/6 to 9/-; Doherty 6/- to 10/-; Del., 9/- to 13/- Citrus: Vals., flats 3/6 to 6/-, dumps 5/- to 8/-; Navels, flats 6/- to 8/6 (special to 9/6), dumps 5/- to 12/6 (special to 13/-); Lemons, 2/6 to 5/- (special to 6/-, inferior from 1/6); Mandarins, 4/- to 9/- (special to 10/-); other lines: Passionfruit, quarter-dumps, 2/6 to 4/-; Tomatoes, 2/- to 6/- (special to 6/6, others from 1/-).

SOUTH AUSTRALIA.

Adelaide (27/8/37).—Apples (eating), 5/- to 7/- case; do. (cooking), 4/- to 6/-; Bananas (Qld.), 26/- to 28/-; Lemons, 4/-; Oranges (Common), 4/- to 5/-, do. (Mandarin), 8/- to 10/-; do. (Navel), 5/- to 7/-; do. (Poorman), 5/-; Passionfruit, 16/-; Pears (eating), 8/- to 10/-; Pine-apples, 12/-.

NEW ZEALAND.

Dunedin (20/8/37): Messrs. Reilly's Central Produce Mart Ltd., reports as follows:—Business during the week has been quite satisfactory, supplies of most lines being sufficient for requirements. Unfortunately, Apples are still difficult to dispose of at satisfactory values, although first-grade fruit has a slightly better enquiry. Values for second grade lines have been particularly low, and returns must prove very disappointing to consignors.

The last shipment of S. Aust. Oranges and Mandarins has been cleared out of wholesalers' hands, and good bookings for the next arrival of the "Waitaki" are being experienced. Increased supplies of N.Z. grown Lemons have been arriving, and values are easier. Marmalade Oranges are in ample supply at lower values. Ripe Bananas have a good enquiry.

Prices (per case): Australian Navel Oranges 16/- to 22/-, Island Oranges 15/- to 21/-, Cal. Lemons 80/-, Grapefruit 47/6, Grapes 32/-, Bananas, ripe 20/-, Mandarins 22/-, Pines 18/-, Pears: W.C. 10/6 to 13/6, W.N. 10/6 to 13/6, Cooking Pears 7/6. Apples: Del. 5/- to 9/-, Jons. 5/- to 7/6, Sturmers 6/- to 8/-, G.S. 8/- to 10/-, Cleo. 4/- to 6/6, small and inferior grade dessert Apples 1/6 to 3/6, cookers 4/- to 6/6. N.Z. Lemons 18/- to 25/-, Poorman Oranges 8/- to 9/- (Per half-case): Passionfruit 14/-, Raratongan Tomatoes 12/-.

Hours at Victoria Market

Move for Alteration.

Will it be an Improvement?

FOR some time past the Wholesale Fruit Merchants' Association of Victoria has favored an alteration of hours for the sale of fruit at the Victoria Market, and has urged the City Council to authorise such alteration, without any action having been taken to date.

The Association argues that with the present transportation possible by motor vehicles, there is no need for the early hours of opening at present operating to be continued. In the old days, when horse-drawn vehicles were used, the hours were reasonable, but now buyers can do their business so easily and expeditiously that later opening is desirable.

The fact that we, as a people, raise objections to any new innovation, may be a reason for objection in some quarters, but the merchants point out that recently the compulsory closing of retail fruit and vegetable stores at 1 o'clock on Saturdays has apparently caused no disruption in the trade, and the later opening of the market would similarly incur no hardship on any section of the industry.

In discussing this subject in a letter to the "Age" recently, Mr. A. V. Wilson, Melbourne representative of the C.O.D., Brisbane, states:— "Our produce arrives in Melbourne in the early hours of the morning twice weekly, and, despite every effort to get it up to the agents' stores as early as possible, the great bulk of it misses the market on the day of arrival, and has to be carried over to the following day, or days. This, naturally, is to the detriment of the produce, and consequently the consumer does not receive his fruit and vegetables in as fresh a condition as would be possible under the suggested alteration in hours.

"In the Winter, Queensland and the northern rivers of New South Wales supply all the Beans on the Melbourne market for about four months, and special arrangements have to be made to give delivery of these from the railway at from 3 to 4 a.m. These hours are inhuman, and should not be tolerated in an advanced and civilised community such as our own. If any delay occurs in the arrival of the train the market is missed, and the Beans have to be carried over, with a serious loss in quality, which reacts both on the consumer and grower. Practically all the men who work in the market are connected with the trade leave home at a very early hour, and frequently do not reach their home again until 6 p.m. Their family life is almost non-existent, and their children hardly know them.

"Were these early hours essential for the welfare of the grower and those concerned in the marketing and retailing of his produce they would not be cavilled at, but in these modern times of fast motor transport they are totally unnecessary, and equally satisfactory results could be obtained for all concerned were the market to open one to two hours later, and thus come into line with the rest of the wholesale fruit and vegetable trade in Australia and other parts of the civilised world.

"These arguments apply not only to interstate produce, but equally to that which is grown in Victoria, and which represents by far the largest proportion sold on the Melbourne market."

Another writer in the same paper, Mr. A. E. Cameron, of Red Cliffs, who is a grower and also President of the Grape Growers' Association in his district, follows with:—

Herbert Wilson Pty. Ltd.

WHOLESALE FRUIT MERCHANTS
AND COMMISSION AGENTS

Nos. 1 and 10, Wholesale Fruit Market, Melbourne.

Accredited Agents for Victorian Central Citrus Association
and Affiliated Association.

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Private Phone: M 3055.

Bankers: National Bank of Australasia (Western Branch), Melb.

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... IS ...

THE FRUIT CENTRE

Serving a Population of Over 13,000,000
in the North and Midlands.

REGULAR SAILINGS TO CONTINENTAL PORTS provide unrivalled
MARKETS for re-export of EMPIRE FRUIT.

Specially Constructed REFRIGERATOR VANS carry FRUIT direct from
STEAMER to inland destinations by EXPRESS TRAINS.

RAPID HANDLING, QUICK DESPATCH, LOW CHARGES, and
THE BEST PRICES. SEND YOUR FRUIT TO HULL.

TEN MODERN DOCKS entirely owned and managed by

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Full information and literature supplied on application—

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7 Bridge Street, Sydney. 312 Collins Street, Melbourne; and Branches.

Fruit Transport by Sea

To Interstate Markets

IN REFRIGERATOR or COOL, WELL VENTILATED TWEEN DECK
specially adapted for Fruit Carriage and fitted with powerful Electric Fans.

FAST MODERN PASSENGER VESSELS

Sail every Wednesday and Saturday for Sydney and Brisbane.

Sail every Saturday for Townsville and Cairns.

CARGO VESSELS sail Weekly for Sydney and Brisbane (Tuesdays).

SPECIAL REDUCED RATES OF FREIGHT.

FURTHER INFORMATION, SAILING DATES, ETC., WILL BE
GLADLY SUPPLIED ON APPLICATION TO THE UNDER-
MENTIONED COMPANIES AT MELBOURNE:—

HOWARD SMITH LTD.

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HUDDART PARKER LTD.

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for
this market will have
careful attention and
realise highest prices
if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

PERSONAL SUPERVISION
OF
EVERY CONSIGNMENT.

Cheques posted promptly.

Drop us a Line or Cable:
"Peachbloom," Dunedin.

"After a journey of two nights and a day by rail, our fruit arrives at Spencer-street during the early hours of the morning and is not available at the market for some time, thus missing the early buyers. By request of retailers, their hours of trading have recently been restricted by legislation.

"The same thing applies to wholesale merchants, who are surely entitled to similar legislation, especially as it would not seriously inconvenience retailers, who, with modern motor transport facilities, would supply their shops just as early under later opening hours as they could a very few years ago, using slow transport. Thus a better service could be given producers in distant parts of the State, who labor under difficulties enough, in endeavouring to market fruit in sound condition.

"Surely Melbourne can fall into line with other progressive capital cities, and fix reasonable hours of trading, in keeping with modern ideas of speedy and efficient service."

In a brochure issued recently by the Wholesale Fruit Trade Reform Committee, it is claimed that a much-needed reform in marketing hours is an urgent necessity. In putting forward a case for the country grower, the pamphlet states that the returns to the country grower could be materially increased by an alteration in the marketing hours. The Brisbane market opens at 8 a.m., the Sydney market at 7 a.m., and the Adelaide market at 7 a.m. in the Summer and 7.30 a.m. in the Winter. Compare this with the opening of the Queen Victoria Market in Melbourne at 4 a.m. on Saturdays and 5 a.m. on Tuesdays and Thursdays, and 6 a.m. on Mondays, Wednesdays and Fridays. If the opening hour of the whole of the wholesale trade in Melbourne were altered to, say, Winter, May to October inclusive, 7 o'clock every day, and November to April, inclusive, 6 o'clock every day, which would be earlier than the opening hours of the Brisbane and Sydney markets, much less of the produce that arrived at Spencer-street during the previous night would miss the market, which would be a great advantage to the country growers and to the consumers in the metropolis.

The wholesale trading is largely in the hands of two classes of traders. Firstly, there is the local grower, who, to a large extent sells the fruit and vegetables which he has grown on his own orchard or garden, and secondly there is the merchant who is the representative of the distant grower, and the only direct outlet in the city for his produce. It should be realised that Melbourne is largely dependent on the up-country grower for supplies of fruit.

It must be noticed that many of the growers are also dealers, as they regularly buy from other growers even in the other States, and then sell this produce on their own stands in the market which have been allotted to them as growers, ostensibly as produce grown by themselves.

By fixing the opening hour for selling fruit at a later hour than at present, there would be a more concentrated market, to the benefit of both the local grower and the retailer. At the present time unregulated and straggly trading hours in the wee sma' hours in the morning are not conducive to health or business-like trading.

After much consideration it may be confidently said that the proposed later marketing hours would inflict hardship on none. On the contrary, they would improve the trade and save the time and energy of both buyer and seller; inward and outward deliveries would be facilitated. The business would be concentrated to a

limited, but reasonable period. The general public would benefit by being able to obtain supplies fresh from the country. Local producers would have more reasonable hours for their daily avocation, while country growers would have the benefit of having their produce sold in a fresher condition because of the fruit being available on the day of its arrival.

The alteration of the fruit marketing hours is a reform long overdue. Now is the time to effect the change.

EARLY CLOSING OF SHOPS.

Sydney Has a "Stay Open" Strike.

Disapproval of the new regulations requiring the early closing of fruit shops in Sydney is being shown by owners at King's Cross and nearby areas. This is being shown by retailers refusing to close at 8.30 p.m., as instructed. They claim that the enforced early closing will result in a reduction in the consumption of fruit and, in areas where flat residence is general, most of the trade is done between 6 p.m. and midnight.

At a meeting of retail fruit and vegetable merchants it was reported that foreigner-owned shops were flouting the law and that Australians, with a high standard of living, were thus being penalised.

The Fruitgrowers' Federation believes that exemptions should be made in the case of flat areas and seaside districts to meet exceptional circumstances, and to provide facilities for greater consumption of fruit.

A deputation is being arranged by the Shopkeepers' Defence Association to the Minister for Labor and Industry when an appeal against earlier closing will be made.

NEW REGISTRATION.

H. W. Bevan & Co. Pty. Ltd. Cap. £5,000 in £1 shares. Objects: To acquire the business carried on under the style of H. W. Bevan & Co. Ltd. Subscribers: Herbert W. Bevan and Robert A. H. Godby (1 share each). First directors: Herbert W. Bevan, Robert A. H. Godby, and Alexander J. McIntosh. Reg. office: Sydney. Reg. 12/7/37.

SOFT FRUITS STORAGE LTD.

Prospectus Received.

We have received a prospectus offering 100,000 shares at 5/- each in a company proposed to operate a patent process for the storage of fresh fruit. The method of storage proposed is by gas, and the process follows 13 years of experiments in Australia that are claimed to have been highly satisfactory.

The directors announced are Messrs. H. F. Brockhoff, A. E. Pitt, Col. J. H. Lang, of Harcourt, and W. Dunkerley, of the Metropolitan Ice & Fresh Food Pty. Ltd., Melbourne. The brokers are Messrs. E. A. Simmil & Co., 422 Collins-street, Melbourne, and the Secretary is Mr. E. C. Candy, 84 William-street, Melbourne.

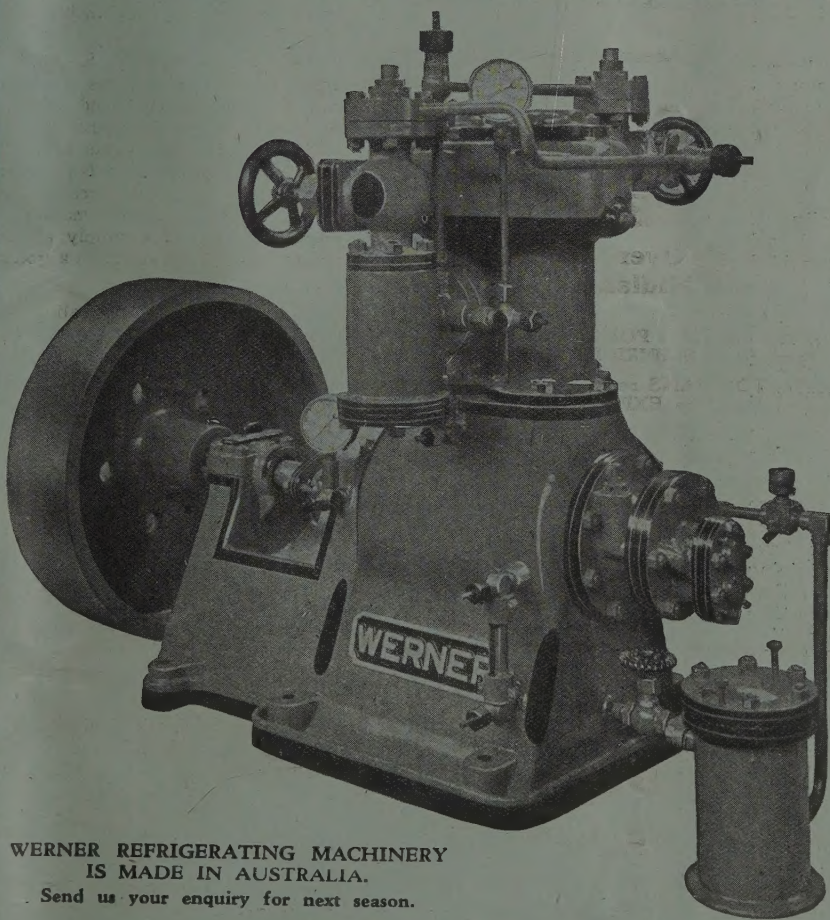
IN LIQUIDATION.

Pitts & Lehman Ltd., Sydney. All claims to S. G. Rogers, Liquidator, 375 George-street, Sydney, before 30/9/37.

"WERNER" PLANTS Refrigerate Over 1½ Million Cases

of Fruit in over 60 Stores throughout the Commonwealth

We design and Install Plants to Store from 500 Cases upwards



Enclosed Type
Ammonia
Compressor
Suitable for
Full
Automatic
Control

Direct
Expansion
or
Brine
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Type of
Compressor made
by Werner from
10-ton
upwards.

WERNER REFRIGERATING MACHINERY
IS MADE IN AUSTRALIA.
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Phones: J 1161 (6 lines)

CITY SHOW ROOM: 610 LITTLE COLLINS STREET, MELBOURNE. Phone: MU 6275

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ATKINS (W.A.) LTD.,
894 Hay Street.

Increased Production and Limitation of Exports Point to the Need for More Cool Stores

MARKETS MUST BE REGULATED BY SPREADING
SALES OVER A LONGER PERIOD

The Advantages of Cool Stores on Individual Orchards

THE LIMITATION of export of Apples and Pears to overseas markets, increased production, and the elimination of many varieties from the export trade, are factors which have made it necessary for orchardists to develop their local markets to a greater extent than in the past.

The elimination of many varieties from the export trade has been overcome to some extent by working trees over to other varieties, but there are still many good varieties grown in Australia which are required on the Australian markets, but not on the overseas markets. The efforts to regulate supplies to overseas markets are gradually placing overseas shipments on a better basis. This has resulted, however, in the throwing of more Apples and Pears on to the Australian markets, and it has been found that there is not sufficient cool storage space in Australia to hold the fruit over peak periods, with the result that early prices have been depressed by over supplies.

If more cool storage space is available, particularly in States like Tasmania, South Australia and New South Wales, these States can then spread their sales over a longer period and thus have a stabilising effect on the market and enable the supplies to be marketed in a regular and orderly manner.

Cool Stores on Individual Orchards.

Whilst there is a diversity of opinion as to whether increased cool storage facilities should be provided by means of large co-operative stores or individual stores on the orchards, there can be no gainsaying the fact that the smaller stores on individual orchards ranging from a capacity of 1,000 to 15,000 cases have demonstrated their value over the last five years.

The small cool store is easily and economically managed, and no special engineering skill is required to operate these stores. Many of those growers who have already erected stores on their own orchards have found that in addition to obtaining savings in their storage costs, they have been able to save their own time and the time of their men in carting their fruit from the orchard to the district store, thus giving them more time to devote to the necessary cultural operations on the orchard.

In building a store, ample space can be provided for an up-to-date and well-equipped packing and grading room. The need for improved facilities in this respect on the orchard is even greater now than in the past, because on the overseas markets Australian fruit has to be kept up to a high standard to compete with the

shipments from other countries that despatch fruit to the British markets at the same time as the Australian fruits.

Immediately a cool store is erected on an individual orchard the capital value of the property is considerably increased, because it is recognised that the modern orchard must not only be equipped to grow good fruit, but also to store same under good conditions and pack and grade the fruit to a high standard.

Operating and Building Costs.

The following experiences of a private orchardist who recently erected a store on his property, which can be confirmed by all growers who have made this progressive step, is of interest.

In 1936, a store with 7,000 case capacity was erected at a cost of approximately £1,750. This store was built from the best materials throughout, with electric motor drive and new 4-ton refrigerating plant. After allowing for interest, depreciation, maintenance, all upkeep and running expenses on a very liberal scale, it cost approximately only 10d. per case per year. This figure was arrived at after allowing for the building to be written off over a period of twenty years, and the plant in ten years. It is, of course, well known that if the store is a good job it will still be doing service in another twenty years after the period when it has been written off.

The actual cost for electric power is about 3d. per case per year. These figures are based on the store capacity of 7,000 cases, whereas if more fruit is put through the store in the year, the cost per case would be reduced.

The erection of a cool store on the orchard should be looked at from the same point of view as the erection of a home. It is just as necessary to provide up-to-date facilities for housing and accommodating the products of

the orchard as it is to provide a home for the family. Whilst the question of financing the erection of the cool store needs careful consideration, it should be realised that better facilities for holding fruit and preparing and grading same for the market will result in a larger income, which will amply provide for the payment of the capital cost over a period of years.

It is interesting to know that small stores from 5,000 to 10,000 case capacity can be built and equipped for an all-round figure of 5/- to 6/- per case, according to method of drive. This figure is even less in larger sized stores.

Those growers who will be visiting the Melbourne Royal Show this year should take advantage of the opportunity whilst in Melbourne of visiting some of the private cool stores which have been erected on orchards, many of which are in close proximity to the city. Interstate visitors particularly will find much to interest them in these stores.

System of Refrigeration.

Scientific research has developed a new direct expansion method of refrigeration and it is generally agreed that this system, as far as the storage of Apples and Pears is concerned, is a vast improvement on the old air circulation system, and icing-up troubles have been eliminated.

It has been found that the direct expansion system improved the quality of the fruit stored, especially those cases taken out of the store towards the end of the year. In addition, running costs are definitely less than on the older air system. This particularly applies to those stores which are driven by electric motors. Engineers who staunchly stood by their battery system for years have been converted to direct expansion, and it seems only a matter of time when all stores will be changed over to this system.

In many cases where Messrs. R. Werner & Co. Pty. Ltd. have been instructed to change over the system of refrigeration they have been able to take in the battery room as a store, either as a separate room or to widen the adjacent chamber. The extra income derived from the change because of the space so created in one instance amounted to over £100 per annum, which paid, at 10 per cent., the interest on the whole conversion job. The new system of direct expansion can also use up old battery coils if there is any reasonable expectation of life in them. A conservative estimate places the cost of

conversion to direct expansion at approximately 9d. per case. In some cases it is less than this amount if the old battery coils can be used.

Cool Stores at Canneries.

It is particularly gratifying to note the satisfactory developments which have taken place over the last few years in the canned fruit industry. The continuous demand from overseas for Australian canned fruits has helped producers in Australia, but as new areas are coming into bearing each year, it is obvious that still further developments will have to take place in regard to canning fruits. Cool storage is now taking an important part in the canned fruit industry, and the developments in recent years whereby big canners have erected cool stores adjacent to their canneries is of interest. These canneries have found that Pears and Peaches after a period in cool store ripen evenly, thus allowing the work of canning to proceed smoothly, also in many cases, to extend the period for canning.

The system used in these pre-cooling plants is a comparatively new one to cool storage, and comprises a combination of direct expansion and air circulation by means of a fan with ducts and blinds individual to each chamber. The system is based on the quick movement of air through the stacks of cases.

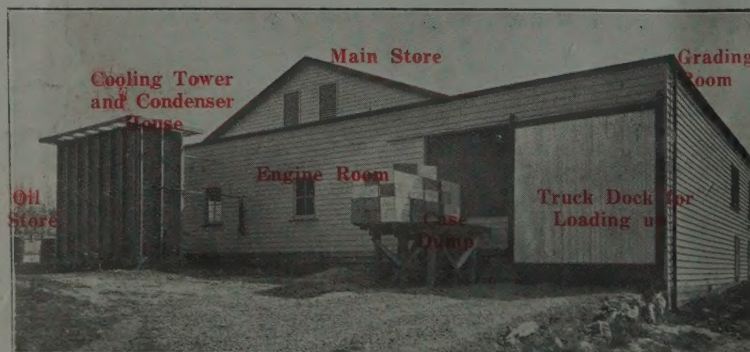
Canneries at Leeton and Griffith, in the Murrumbidgee Irrigation Areas, have stores capable of precooling over 50,000 cases of Pears and Peaches. The Shepparton Cannery have a store with a capacity of 200,000 cases, the Australasian Jam Company 100,000, and the Kyabram Cannery 35,000 cases. Other canneries are considering installing cool stores on similar lines, and it is now generally recognised that no cannery which handles any quantities of Pears and Peaches is fully equipped to meet modern developments in fruit canning unless they have a cool store adjacent to their cannery.

A study of the foregoing reviews in connection with the development of the Apple and Pear and canned fruit industries will give some idea of the important part that modern scientific research has played in assisting these sections of the industry.

Messrs. R. Werner & Co. Pty. Ltd., refrigerating engineers, have devoted much time and consideration to all aspects of the fruit industry, and their engineers are constantly on the look out for further improvements that will help to place the fruit industry on a solid and satisfactory basis.

A cordial invitation is extended to fruitgrowers, canners, exporters and others interested in the industry to call at their works in Burnley-street, Richmond, where they will be pleased to discuss cool storage problems, submit estimates and other details concerning cool storage.

Messrs. Werner and Company will have their usual interesting exhibit at the corner of McCracken-avenue and Lobb-street at the forthcoming Melbourne Royal Show on September 23 to October 2, where representatives will be in attendance to give any information required on all aspects of cool storage.



6,000 Case Fruit Store.

AUSTRALIAN INSTITUTE OF REFRIGERATION.

Eighteenth Annual Meeting.
September 15 and 16.

The 18th annual meeting of the above Institute will be held at Kelvin Hall, Collins-place, Melbourne, on Wednesday and Thursday, September 15 and 16, at 8 p.m.

Amongst the items appearing on the agenda paper are the election of officers for the ensuing year and the election of two persons for membership.

On Wednesday night a paper upon "Pre-cooling Stores for Fruit" will be read by Dr. W. J. Young, from contributions by Messrs. Rees, Davies and C. E. Cooper, of the South African Government Low Temperature Laboratory.

On Thursday night, Mr. W. J. Williams, Superintendent of the Sydney Municipal Markets, will read a paper on "The Cold Storage of Vegetables."

Readers interested in cool storage, will be welcomed at either or both sessions.

COOL STORES CAPACITY.

4,300,000 Cases in Australia.

If the figures of Mr. J. W. Budge, of Sydney, are correct, Australian cool stores can accommodate no fewer than 4,300,000 bushel cases of fruit and New Zealand can carry a further 1,000,000 cases.

He compiles his figures as:—Victoria, 2,000,000; N.S.W., 600,000; Tasmania, 700,000; S.A., 400,000; and W.A., 600,000, whilst Queensland has

no cold storage for fruit in the country districts. In the Southern States cold storage is being rapidly developed. Brisbane has one cold store capable of taking 2,000 cases, but more are needed, he told the Stanhope Chamber of Commerce.

He quoted the above figures in explaining that cold storage stabilises the market by enabling the grower to withhold fruit and prevent a glut and unpayable returns for his fruit. Every large fruit producing district, he submitted, should have a cool store.